Aberdeen Harbour Expansion Project

Construction Environmental Management Document

28 October 2019

DRAGADOS

Contents

Chapter 1	Introduction
Chapter 2	Roles and Responsibilities of Staff
Chapter 3	Construction Method Statement
Chapter 4	Archaeology Plan
Chapter 5	Construction Lighting Management Plan
Chapter 6	Construction Traffic Management Plan
Chapter 7	Dredging and Dredge Spoil Disposal Management and Monitoring Plan
Chapter 8	Fish Species Protection Plan
Chapter 9	Habitat Management Plan and Otter Protection Plan
Chapter 10	Landscape Mitigation Compensation Plan
Chapter 11	Marine Mammal Mitigation Plan
Chapter 12	Marine Invasive Non-Native Species and Biosecurity Management Plan
Chapter 13	Noise and Vibration Management Plan
Chapter 14	Piling Management Plan
Chapter 15	Pollution Prevention Plan
Chapter 16	Nigg Bay Site of Special Scientific Interest Management Plan
Chapter 17	Vessel Management Plan
Chapter 18	Waste Management Plan
Chapter 19	Existing Abstractions and Discharges
Chapter 20	Ground Gas and Groundwater Report: Phase II Site Investigation Risk Assessment

Chapter 20
Ground Gas and Groundwater Report: Phase II Site Investigation Risk Assessment

Phase II Site Investigation Risk assessment: Nigg Bay Harbour Development, Aberdeen

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List of Contents

1 INTRODUCTION 4

1.1 Background 4

1.2 Scope of works 5

1.3 Report structure 6

2 SITE LOCATION 7

3 INTRUSIVE SITE INVESTIGATION 9

3.1 Summary of Site Investigative works 9

3.2 Ground conditions 9

3.3 Sample choice 17

3.4 Analytical procedures 18

4 METHODS FOR RISK ASSESSMENT 18

4.1 Soil Metals 18

4.2 Soil TPH 19

4.3 Soil PAH 20

4.4 Soil BTEX 20

4.5 Soil asbestos fibres 20

4.6 Soil phenols 20

4.7 Other soil parameters 21

5 RESULTS OF INTRUSIVE SITE INVESTIGATION- LAND BASED SAMPLES 22

5.1 Soil Metals 23

5.2 Soil Total petroleum hydrocarbons (TPH) 24

5.3 Soil Polycyclic aromatic hydrocarbons (PAH) 25

5.4 Soil BTEX 26

5.5 Soil miscellaneous 26

6 RESULTS OF INTRUSIVE SITE INVESTIGATION- DREDGE SAMPLES 27

7 GROUND GAS INVESTIGATION (CLIENT -LED) 28

8 NESS TIP LANDFILL -BACKGROUND INFORMATION 32

9 GROUNDWATER EXAMINATION-CLIENT LED 36

10 CSM RISK ASSESSMENT 39

10.1 Sources 39

10.2 Pathways 39

10.3 Receptors 40

11 DISCUSSION 41

12 CONCLUSIONS AND RECOMMENDATIONS 44

13 REFERENCES..... 45

14 DISCLAIMER..... 46

List of Tables

Table 1 Summary of made-ground conditions from 2015 investigations 16

Table 2 Concentration of metals determined in soil samples collected mg/kg dry matter (DM)..... 23

Table 3 Concentration of TPH in soil samples collected, mg/kg DM (mg/l)..... 24

Table 4 Concentration of PAH in soil samples collected, mg/kg DM..... 25

Table 5 Concentration of BTEX & MTBE in soil samples collected, mg/kg DM 26

Table 6 Concentration of miscellaneous factors in soil samples collected,..... 26

Table 7 GSV for Nigg Bay boreholes (methane and carbon dioxide)..... 30

Table 8 Summary of response zones for boreholes 36

List of Appendices

APPENDIX A: On land BH & TP locations and logs
APPENDIX B: Laboratory Results (land and water based samples)
APPENDIX C: Over-water coring locations 2016
APPENDIX D: Gas monitoring data summary and full data sets, calibration certificate (new data)
APPENDIX E: Ness Tip landfill data (selected)
APPENDIX F: overlay of new harbour structures on aerial photograph
APPENDIX G: Earth Sciences report on Shore landfill from 1992.

1 INTRODUCTION

1.1 Background

EnviroSurveying Ltd (ESL) was commissioned by Aberdeen Harbour Board (client) to undertake a risk assessment of data collected as part of the site investigation at Nigg Bay in 2015 and 2016 to determine whether contamination of the land has occurred and whether this would affect development works.

Aberdeen Harbour Board has recognised the need to expand the existing harbour facilities to provide increased capacity and the ability to accommodate larger vessels. Since 2012 an area at Nigg Bay has been identified as the preferred location for this. Feasibility, consultation and design studies have been taking place since then.

This project was assessed under the following regulatory framework, with three primary consents required for the Aberdeen Harbour Expansion Project:

- Planning Permission from Aberdeen City Council (ACC) for the three temporary construction compounds at Girdleness headland, Greg Ness headland and St Fittick's Park; and amendments to roads, footpaths and cycle paths in the vicinity of the project. Planning Permission in Principle was granted in May 2016 and Dragados, the main contractor for the project, is discharging the Matters Specified in Conditions. (Planning reference:151742).

- Harbour Revision Order from Transport Scotland for the construction of the harbour infrastructure and the capital dredging, and the subsequent operation of the harbour. The Harbour Revision Order came into force on 8th December 2016.

- Marine Licences from Marine Scotland for the construction of the harbour infrastructure below the Mean High Water Mark, and the capital dredging and disposal of material at sea. The Marine Licences were granted on 4th November 2016.

Figure 3.1 within Chapter 3 of the Environmental Statement (previously provided to ACC as an electronic and hard copy, and available on AHB's website www.aberdeen-harbour.co.uk/future/nigg-bay-documents/) shows the boundaries of the three consent areas.

ACC are a statutory consultee on the Harbour Revision Order and Marine Licence applications. As the construction of the harbour infrastructure is authorised by the Harbour Revision Order, not the Planning Permission in Principle, the requirement to investigation contamination and ground gas on site and to undertake an assessment of ground water quality was requested by ACC as a condition of the Harbour Revision Order.

Due to the extensive infrastructure works that will be required for this development the need for environmental monitoring was highlighted within the EIA (Environmental Impact Assessment) published in 2015. Engineering works to assess the geotechnical and environmental challenges for the project took place in 2013, 2015 and 2016. These works included trial pitting and installation of boreholes across the whole Nigg Bay area (land and sea). The boreholes and trial pits undertaken by Soil Engineering in 2015 included collection of soil samples from carefully selected locations across the site and submitted for lab analysis for a wide range of chemicals. These locations were evenly spaced across the site and included 23 trial pits, 30 cable & percussion/rotary boreholes.

EnviroSurveying Ltd were not involved at the site investigation stage but have been contracted to risk assess the available data with regards to current contaminated land guidance to determine whether the ground poses any risk to human health for the AHEP development. It was known that there was extensive lab analysis data from 31 soils. However, there was no gas or groundwater quality data. Therefore, this was instructed to take place during the summer of 2016 to further facilitate risk assessment of the site.

In addition, chemical analysis was undertaken from a wide range of seabed samples of material dredged from the bay itself. This was for the purposes of environmental and geotechnical assessment. The intention is to re-use a proportion of the dredged material on the land as fill material during the construction works. The environmental impact of this material was therefore also assessed.

The investigation/interpretation is requested by the Environmental Health Department at ACC due to their obligations under Part IIA of the Environment Protection Act 1990. Since the site is to be developed it also requires to be investigated under the Town and Country Planning Act (Scotland) 1997 in order to determine "material considerations" such as that defined by PAN33 (Development of Contaminated Land) and PAN51 (Planning and Environmental Protection). PAN33 places a duty upon the Local Authority to consider the potential for contamination during review of a planning application. The proposed risk assessment will also focus on determining whether there is a significant risk that the land at the site represents a risk to sensitive site receptors. This will ensure that the site is suitable for the intended purpose and that there is no "significant harm being caused or significant possibility of significant harm being caused" (SPOSH) as defined by Part II of the Environmental Protection Act after revision in 1995. This is not necessarily defined by an exceedance of Soil Guideline Values (SGV) which define the level of minimum risk rather than the unacceptable intake level.

1.2 Scope of works

This report makes reference to numerous data sources. Works carried out by Soil Engineering under supervision of Arch Henderson (AH) in 2013- 2015 will be annotated as (SE). Works carried out to undertake gas monitoring and groundwater collection undertaken by Northern Soil Surveys under joint instruction by Aberdeen Harbour and ESL will be annotated (NSS). Over-water drilling will be annotated VC/RC (Vibrocore/Rotary core). Works carried out by EnviroSurveying Ltd will be annotated (ESL).

The specific scope of the intrusive work was as follows:

- Dig 23 trial pits across the site, log these and collect soil samples for later analysis (SE)
- Drill 30 C&P boreholes (some then progressed deeper as Rotary boreholes) across the site at pre-agreed locations (SE)
- Install 11 boreholes with standpipe suitable for gas and groundwater monitoring (SE)
- 33 over-water boreholes to be drilled in the bay itself and samples collected for lab analysis(VC/RC)
- Specify soil analysis suite for 31 samples collected from the site, to be submitted immediately to SAL labs (SE & AH)

- Specification of gas monitoring and potential groundwater monitoring following review of logs (ESL)
- Gas monitoring of 11 boreholes installed above plus 4 Council boreholes for a minimum of 6 rounds (NSS)
- Collection of an initial round of groundwater for analysis from selected locations (NSS)
- Risk assessment of soil chemical lab data, gas monitoring data and groundwater data (ESL)
- Risk assessment of dredged material chemical data for re-use on land (ESL)
- Risk assessment of landfill reports from Council owned Ness Tip landfill monitoring (ESL)
- Soil values will be compared to either Soil Guideline Values (2009 SGVs) where available or 2009 LQM CIEH GAC/ 2015 LQM S4UL's criteria (using latest EA values as available);
- Groundwater data will be assessed in accordance with WAT-PS-10-01
- Gas data will be risk assessed in accordance with CIRIA C667
- All information collected from the intrusive site works, will be presented in the form of a site investigation report which will contain the qualitative risk assessment, interpretation of risk to receptors and a site conceptual model. This should be read in conjunction with the SE 2013 and 2015 reports already provided (ESL)
- All works will be carried out to BS10175:2011 and are covered by comprehensive public liability and professional indemnity insurance cover.

1.3 Report structure

The results of all the work carried out to date are presented in this report which is structured as follows:

- Section 2, Site location;
- Section 3, Intrusive site investigation;
- Section 4, Methods for Risk assessment
- Section 5, Results of intrusive site investigation land based data;
- Section 6, Results of intrusive site investigation - dredge/over-water core data;
- Section 7, Ground gas risk assessment- client led
- Section 8, Ness Tip landfill- background information
- Section 9, Groundwater examination – client led
- Section 10, Updated CSM risk assessment
- Section 11, Discussion
- Section 12, Conclusions & Recommendations
- Section 13, References
- Section 14, Disclaimer

2 SITE LOCATION & BACKGROUND INFORMATION

The site is located in Nigg Bay, which is bounded by Greyhope Road and Coast Road, and starts at the east end of St. Fittick's Road. It lies some 4km south-east of the city centre, with a golf course to the north, a sewage treatment plant and St Fittick's park to the west, and a closed landfill to the south-west as nearest neighbours. The actual site development extends from the northwest corner of the site (St Fittick's/Greyhope Road) junction to approximately a line projected eastwards from the main entrance to the Scottish Water Nigg WTW (Wastewater Treatment Works), through to BH L2014-5 (as shown on Appendix A).

Appendix F shows the layout of the harbour expansion project overlaid on an aerial photograph of Nigg Bay. This explains the layout well for this complex development, which is largely in the intertidal and marine area

The development consists of: two breakwaters; three quays (West, North and East) and the South East Pier; and a basin dredged to 9m below Chart Datum (10.5m below Chart Datum at the East Quay and the entrance channel). The vast majority of the development is constructed within the marine area, with the exception of sections of the quays and breakwaters that are above the Mean High Water Mark in the north and west of Nigg Bay. To create the closed quays, large concrete caisson structures will be positioned along the quay line, which will be filled with material. To create the open quays, a rock revetment will be created and a suspended deck structure will be installed above it, supported by piles. The areas behind the quaysides will be backfilled, either with material that has been dredged from Nigg Bay (if the physical properties are suitable), or material imported from quarries. Further information on the construction methodology is provided in the Construction Environmental Management Document, which was provided to ACC for consultation by Transport Scotland on 27 February 2017.

The land to the north of Soil Engineering BH L2014-5 (level with sewage treatment works – see Appendix A)) will form the West Quay with a finished level very close to the existing land level. The land will be graded and locally excavated to form the foundation to the concrete quay slab. Some of the natural sand and gravels may be removed on geotechnical grounds and replaced with dense rock fill for the heavier loaded areas. All removed material will be reused where possible as general caisson infill for the other quays. If, during the works, pockets or lenses of (environmentally or geologically) unsuitable material are encountered it will be isolated and removed to a suitably licenced landfill or recycling area.

The land to the south of borehole BH L2014-5 is defined as the inert ACC Shore Tip, which will remain permanently undeveloped and is not part of the AHEP Development. A temporary access road will be constructed in a south easterly direction from BH L2014-5 across the foreshore to the southern cliffs to give access for the drill and blast rigs. This access road will be removed at the end of the construction phase and re-used as general good quality granular infill to the quay construction. As shown on Appendix F, there is no permanent infrastructure in this southern section of Nigg Bay except the south breakwater. In the south west of the bay, which has in the past been used as a landfill area by ACC (hereonafter referred to as the Shore landfill or tip), material will be excavated on the marine boundary to create a stable slope, and a rock revetment will be installed. The cliff adjacent to the Coast Road is part of the Nigg Bay Site of Special Scientific Interest and will not be disturbed by construction activities.

3 INTRUSIVE SITE INVESTIGATION

3.1 Summary of Investigative Site works

Significant site investigation works were undertaken by Soil Engineering Geoservices in 2013. These included 18 trial pits on land but the majority of the 2013 work involved over-water drilling, all for geotechnical purposes. These were logged but not sampled for environmental purposes. However, the logs can prove useful in characterising the site (see Section 3.2 of this report for further detail).

Soil Engineering Geoservices Ltd then undertook further extensive site works between May and October 2015. These included 30 cable & percussion boreholes to 1-14.8mbgl (metres below ground level). Some of these were then advanced by rotary drilling to depths of 10-70mbgl to determine further geological information. Of the 30 boreholes drilled, 11 were installed for later gas and groundwater monitoring, and an extra 3 installed for pump testing. Groundwater levels were recorded over the duration of the works. In addition, Soil Engineering excavated 23 trial pits were dug around the bay. The dual purpose of this investigation was geotechnical assessment of the site for the planned development and environmental assessment. 31 soil samples were collected from these trial pits for a full environmental chemical analysis. In addition a further 34 samples were tested to determine the concrete classification for the development. The lab reports can be seen in Appendix B of this report.

These works are described in full in the extensive Soil Engineering report TC7606 (provided to ACC July 2016). This report should be read in conjunction with report TC7606 but the key findings are discussed and summarised here, with extracts where relevant. References to relevant sections are given within this report.

In addition to the on-land sampling there were 33 over-water boreholes installed by Vibrocore and Rotary core in early 2016. There were 9 Rotary core holes drilled and a total of 105 samples recovered from these. There were a further 24 Vibrocore holes drilled which had 83 samples recovered from them. The location of these can be seen in Appendix C. A total of 225 samples were subject to physical and chemical lab analysis. The results can be seen in lab report SAL551705 & 555659 in Appendix B of this report.

3.2 Ground conditions

From the initial walkover surveys of the Bay and foreshore at least 4 no. geological “units” have been identified, namely: made-ground, naturally occurring sands and gravels, glacial till, and bedrock. These 4 units have subsequently been proved and investigated with a total of 38 trial pits, 33 boreholes, 3 trial trenches and 60 dynamic cone tests on land. In the bay itself an additional 98 boreholes and Vibro cores have been undertaken (detailed chronologically below).

The natural geological sequence forms a large glaciated and infilled valley (postulated to be the old course of the River Dee itself) with the more recent beach deposits of sands and gravels deposited in the upper horizons.

The land on site has never had any local industrial use, but in the mid 1980’s ACC used the south west corner of the bay to store demolition fill material, which in turn acted as a cliff stabilisation mechanism for the western cliffs (designated as a geological Site of Special Scientific Interest (SSSI)). This demolition fill can be regarded as inert material and consists of a granular mix of coarse and very coarse materials comprising a mix of sand and gravel, cobble and boulder sized fragments of metamorphic rock, igneous

rock, concrete, tarmac, brick, plastic pipe and metal. This area is referred to within this report as the Council Shore landfill in order to distinguish it from the Ness Tip landfill.

A particularly useful report has been located which details this landfill. This can be seen in Appendix G entitled Earth Science Documentation Series - Nigg Bay Site of Special Scientific Interest, by Sarah Keast, 1992". This confirms that the SSSI status applies to the unconsolidated cliff face here, which shows a series of glacial deposits from the last ice age clearly. The report contains a photo from 1978 showing that the "bench" feature along the base of the cliff is only partial at this time, leaving the base of the cliffs exposed to tidal action. By 1992 this plateau bench extends along the full length of the cliff. Section 3.1 (2) of this report details the condition of the site at that time with regards to the tipping and landfilling. It describes ACC tipping "rubble, rubbish, earth, tarmac and concrete… onto the beach". Page 22 of the report also noted that there was evidence of oil or diesel seeping through the cliff face from an unidentified site further inland which was making working conditions unpleasant at the site, and a result Aberdeen University had stopped taking student work parties to the site. ACC was also using the area for storage of granite blocks, slates and kerbstones and evidence of these can still be seen along the shore today. The report concludes with recommendations for management procedures for the area which include prevention of fly tipping, management of wind-blown rubbish from the Ness Tip landfill, and controlled filling of the area to prevent damage to the SSSI cliffs. The information contained within this report correlates well with the ground conditions observed during trial pitting and boreholes in this area, but also with general site observations of the area made during walkovers. The infilled area has not been managed fully and there is exposure of anthropogenic materials due to tidal action. The construction of the harbour development should address this issue and minimise tidal and storm action on this material in the future, and help secure the SSSI condition.

The AHB site investigation confirms the composition of upper fill materials in the Shore landfill are generally inert and can be seen on the provided trial pit logs, borehole logs and photos. These are described in detail below.

Ground observation at the bay began in 2013 with 18 trial pits around the shore of the whole site (known as TP1-18). The location of these trial pits and the geologist's logs can be seen in Appendix A of this report. Photographs have not been included within this report but can be seen in the Soil Engineering 2013 report Section D (previously provided to ACC in July 2016).

An extract from the Soil Engineering 2013 geological investigation report is shown on the next page. This comprises Table 7 & 8 from Section 6.4 and summarises the ground conditions uncovered in these trial pits. Made-ground was noted in 7 trial pits. Made-ground was confirmed in TP 8 & 10 which lay outside the ACC Shore landfill, and in TP11-15 within the Shore landfill. However, as these latter 5 locations are all within ACC's Shore landfill they will not be disturbed and are not part of the development plan. The depth and nature of the fill is detailed below for all 18 locations. This can be seen to be inert materials with low/no gas generation potential and limited leachable characteristics likely.

Only TP8 and TP10 are within the development area – both within the West Quay. TP8 is largely rock, cobbles, sands and gravels but has occasional fragments of coal, ceramic and plastic packaging in the upper 2.5m of ground. The groundwater was not found to be in contact with this made-ground. TP10 was also largely rock, sand and gravel. It contained some reinforced concrete, brick and tarmac, with some wire and plastic at 1mbgl also. The made-ground ceased at 2.4mbgl and groundwater was not found to be in contact with the made-ground at the time.

No chemical testing was undertaken in 2013 from these locations so the assessment of the ground status here is based on observations as recorded below and strongly suggests that where made-ground is present it is inert and unlikely to pose a gas generation risk, or be susceptible to leaching risk. For clarity, ground which is likely to pose a risk of ground gas generation would contain a moderate to high organic matter content, a notable total organic carbon (TOC) content, the presence of degradable materials such as rotting vegetation/household food waste/animal manure/wood/peat/pond sediment and potentially also fuel/oil based hydrocarbons.

[extracts from the Soil Engineering 2013 geological investigation report]

TABLE 7: SUMMARY OF STRATA TYPES ENCOUNTERED IN BOREHOLES FROM THE SOIL ENGINEERING 2013 INVESTIGATION - TRIAL PITS

Borehole No	Made Ground (mbgl)	Marine Deposits (Sand and Sand and Gravel with Clay Interbeds) (mbgl)	Marine Deposits (Sand, Gravel, Cobbles and Boulders) (mbgl)	Glacial Till (Variably Sandy Variably Gravelly Clay with Cobbles and Boulders) (mbgl)	Glacial Sand, Gravel Cobbles and Boulders (mbgl)	Weathered Gneiss (Granite, Gneiss and Schist) (mbgl)	Less Weathered Gneiss (Granite, Gneiss and Schist) (mbgl)
TP01	NE	GL-0.85	NE	NE	NE	0.85-1.70+	-
TP02	NE	GL-0.40	NE	0.40-1.00	NE	1.00-2.10+	-
TP03	NE	GL-0.55	NE	0.55-2.40	NE	2.40-2.70+	-
TP04	NE	GL-0.50	NE	0.50-3.30+	-	-	-
TP05	NE	GL-1.30	NE	1.30-3.20+	-	-	-
TP06	NE	GL-3.00+	-	-	-	-	-
TP07	NE	GL-2.00+	-	-	-	-	-
TP08	GL-2.50	2.50-3.80+	-	-	-	-	-
TP09	NE	NE	GL-2.40	2.40-3.80+	-	-	-
TP10	GL-2.40	2.40-3.20	NE	3.20-4.40+	-	-	-
TP11	GL-2.30	NE	NE	2.30-3.10+	-	-	-
TP12	GL-3.70+	-	-	-	-	-	-
TP13	GL-2.50	NE	NE	2.50-3.50+	-	-	-
TP14	GL-3.50+	-	-	-	-	-	-
TP15	GL-0.60	0.60-2.90+	-	-	-	-	-
TP16	NE	GL-2.50	NE	NE	NE	NE	2.50-2.80+
TP17	NE	GL-4.40+	-	-	-	-	-
TP18	NE	GL-2.00+	-	-	-	-	-

Notes: + Denotes base of stratum not encountered
NE Not encountered

The information obtained from all the investigations undertaken on the site has been summarised in a simplified form in Table 8. This table provides the main stratum types together with their depth ranges and a general description of the material composition.

TABLE 8: SUMMARY OF GROUND CONDITIONS FROM SOIL ENGINEERING 2013 INVESTIGATION

Stratum	Depth to top (mbgl)	Depth to base (mbgl)	Typical Description
Made ground (generally absent)	GL	0.60 – >3.70	A granular mix of coarse and very coarse materials comprising a mix of sand and gravel, cobble and boulder sized fragments of metamorphic rock, igneous rock, concrete, tarmac, brick, plastic pipe, packaging and metal
Marine Sands and Sand & Gravel Deposits (locally absent)	GL - 2.50	0.40 - 10.10	Typically medium dense and dense fine to coarse sand with varying fine gravel, silt and cobble content
Marine Very Coarse Deposits (locally absent)	GL - 10.10	1.80 - 10.70	Cobbles and boulders of mixed igneous and metamorphic lithologies with a sand and gravel matrix
Glacial Till (locally absent)	0.40 - 13.00	1.00 - 38.00	Firm and stiff brown or greyish brown clay with varying sand, gravel, cobble and boulder content
Glacial Granular Deposits (locally absent)	1.40 – 32.40	4.50 – 35.60	Dense and very dense sand and gravel often with a significant cobble and boulder content
Weathered Gneiss (locally absent)	0.85 - 38.00	1.70 - >40.00	Extremely weak, very weak and weak often fractured banded granitic gneiss, comprising of interbanded units of micaceous schist, gneiss and coarse grained granitic materials
Less Weathered Gneiss	GL – 31.30	>40.00	Weak medium strong and strong banded granitic gneiss, comprising of interbanded units of micaceous schist, gneiss and coarse grained granitic materials

Following on from these works a more extensive programme of trial pits and boreholes took place on site in 2015. This was also undertaken by Soil Engineering, under supervision of Arch Henderson LLP and Aberdeen Harbour environmental engineering staff. This included 23 trial pits and 40 boreholes on land (11 of which were installed for gas and groundwater monitoring. Others were installed for pump testing and were not suitable for gas monitoring).

A summary of the ground conditions in these locations is shown below in Table 5 (boreholes) and Table 6 (trial pits) extracted from the Soil Engineering 2015 Report provided to ACC in July 2016 (Volume 1 Section 6.4). This summarises where made-ground was encountered.
[extracts from the Soil Engineering 2015 report]

TABLE 5: SUMMARY OF STRATA TYPES ENCOUNTERED IN BOREHOLES FROM THE SOIL ENGINEERING 2015 INVESTIGATION

Borehole No	Made Ground (mbgl)	Marine Deposits (Sand and Gravel locally with Cobbles and Boulders) (mbgl	Marine Deposits (Sandy, Gravely, Cobbles and Boulders) (mbgl)	Glacial Till (Variably Sandy Variably Gravelly Clay with Cobbles and Boulders) (mbgl)	Glacial Sand, Gravel Cobbles and Boulders (mbgl)	Weathered Granite/ Gneiss (Granite, Gneiss and Schist) (mbgl)	Less Weathered Granite/ Gneiss (Granite, Gneiss and Schist) (mbgl)
L2014 - 1	NE	GL-6.50?	NE	15.00-28.50	6.50? –15.00?	-	28.50–32.70+
L2014 - 2	NE	GL – 3.50#	NE	15.00?-17.80	7.00?-15.00?	-	43.00–47.50+
		3.50 –7.00?		19.30-31.30	17.80-19.30		
				35.80 – 40.40	31.30 – 35.80		
					40.40 – 43.00		

Notes: mbgl Meters Below Ground Level
+ Denotes base of stratum not encountered
NE Not encountered
Predominantly natural material – possibly made ground
? Uncertain boundary – recorded during open hole drilling
D Dolerite

TABLE 5 (Continued): SUMMARY OF STRATA TYPES ENCOUNTERED IN BOREHOLES FROM THE SOIL ENGINEERING 2015 INVESTIGATION

Borehole No	Made Ground (mbgl)	Marine Deposits (Sand and Gravel locally with Cobbles and Boulders) (mbgl	Marine Deposits (Sandy, Gravely, Cobbles and Boulders) (mbgl)	Glacial Till (Variably Sandy Variably Gravelly Clay with Cobbles and Boulders) (mbgl)	Glacial Sand, Gravel Cobbles and Boulders (mbgl)	Weathered Granite/ Gneiss (Granite, Gneiss and Schist) (mbgl)	Less Weathered Granite/ Gneiss (Granite, Gneiss and Schist) (mbgl)
L2014 - 3	NE	GL - 3.00#	NE	12.00?- 38.40	8.00? -12.00?	NE	44.20-45.90+
		3.00 -8.00?			38.40 – 44.20		
L2014 - 4	NE	GL – 9.80?	NE	9.80?-33.00	33.00-42.00	NE	42.00 – 47.00+
L2014 - 5	GL – 4.10	4.10 -15.00?	NE	15.00?-23.50	23.50-41.50+	NE	NE
L2014 – 5A	GL – 2.25	-	-	-	-	-	-
L2014 – 5W	GL – 4.10?	4.10?-15.00?	NE	15.00?-23.50?	23.50-41.50	41.50 – 47.23	47.23-55.00+
L2014 - 6	GL – 3.50?	NE	3.50? – 9.00	9.00 – 23.10	23.10–30.00+	-	-
L2014 – 6A	GL – 4.20?	NE	4.20?-10.0?	10.00?-22.00?	22.00?-31.00?	-	31.00-35.70+
L2014 - 7	GL – 3.05+	-	-	-	-	-	-
L2014 – 7W	GL – 4.70	NE	4.70- 14.50?	NE	NE	NE	14.50?-70.00+
L2014 – 7WA	GL – 4.70+	-	-	-	-	-	-
L2014 - 8	GL – 5.65?	5.65?-8.50?	NE	NE	NE	NE	8.50?-18.00+
L2014 – 9(B)	NE	GL-1.40	NE	NE	NE	NE	1.40-19.25+
L2014 – 10(B)	NE	GL - 2.40	NE	NE	NE	NE	2.40 - 19.00+
L2014 - 11	GL – 0.30	0.30 – 3.50?	NE	3.50?-13.00	NE	NE	13.00-16.35+
L2014 - 12	NE	GL-2.20#	-	-	-	-	-
		2.20 – 5.45+					
L2014 - 13	GL – 0.80	0.80 – 2.20#	-	-	-	-	-
		2.20 – 5.00+					
L2014 - 14	GL – 1.50	1.50 – 5.45+	-	-	-	-	-
L2014 - 15	GL – 1.00	1.00 – 5.45+	-	-	-	-	-
L2014 - 16	GL – 0.80	0.80 – 5.02+	-	-	-	-	-
L2014 - 17	GL – 1.20	1.20 – 5.52+	-	-	-	-	-
L2014 - 18	GL – 2.20	2.20 – 4.80	-	4.80 – 7.00+	-	-	-
L2014 - 19	GL – 1.20+	-	-	-	-	-	-
L2014 – 19A	GL – 3.65	NE	NE	3.65 – 30.00	30.00 – 41.50	41.50 – 54.50+	-
L2014 – 19B	GL – 2.00+	-	-	-	-	-	-
L2014 - 20	GL – 4.00?	4.00?-11.00?	NE	11.00?-28.20	28.20-43.10	NE	43.10–44.50+
L2014 – 20A	GL – 2.75+	-	-	-	-	-	-
L2014 – 21(B)	NE	GL – 2.90	NE	NE	NE	NE	2.90 – 18.40+
L2014 – 22(B)	GL – 1.00	NE	NE	NE	NE	NE	1.00 – 19.60+

Notes: mbgl Meters Below Ground Level
+ Denotes base of stratum not encountered
NE Not encountered
Predominantly natural material – possibly made ground
? Uncertain boundary – recorded during open hole drilling
D Dolerite

Project No: TC7606	ABERDEEN HARBOUR EXPANSION PROJECT
Document No. F01	ABERDEEN

TABLE 5 (Continued): SUMMARY OF STRATA TYPES ENCOUNTERED IN BOREHOLES FROM THE SOIL ENGINEERING 2015 INVESTIGATION

Borehole No	Made Ground (mbgl)	Marine Deposits (Sand and Gravel locally with Cobbles and Boulders) (mbgl	Marine Deposits (Sandy, Gravely, Cobbles and Boulders) (mbgl)	Glacial Till (Variably Sandy Variably Gravelly Clay with Cobbles and Boulders) (mbgl)	Glacial Sand, Gravel Cobbles and Boulders (mbgl)	Weathered Granite/ Gneiss (Granite, Gneiss and Schist) (mbgl)	Less Weathered Granite/ Gneiss (Granite, Gneiss and Schist) (mbgl)
L2014 – 24W	NE	GL – 2.00#	NE	26.00?-36.00?	8.80? - 26.00?	NE	36.00?-70.10+
		2.00 – 8.80?					
L2014 - 25	NE	GL – 2.50#+	-	-	-	-	-
L2014 – 25A	NE	GL – 4.00#	7.80 – 9.50	15.50 – 33.00	9.50 – 15.50	NE	44.50 – 47.50+
		4.00 – 7.80		37.80 – 42.50	33.00 – 37.80		
					42.50 – 44.50		
L2014 - 26	GL – 3.20	3.20 – 8.50	NE	15.50 – 31.50	8.50 – 15.50	NE	31.50 – 36.85+
L2014 - 27	GL – 0.16	NE	NE	1.10 – 33.86	0.16 – 1.10	33.86 – 36.23	36.23 – 37.70+
L2014 - 28	GL – 0.20	NE	NE	8.00 – 23.00	0.20 – 2.05#	NE	30.45 – 35.00+
					2.05 – 8.00		
					23.00 – 30.45		
L2014 - 29	NE	NE	NE	5.10 – 26.00	GL – 1.20#	NE	26.00 – 31.00+
					1.20 – 5.10		
L2014 - 30	GL – 1.20	1.20 – 9.00	NE	9.00 – 29.50	29.50 – 33.80	33.80 – 39.80	39.80 – 41.20+
L2014 - 31	NE	GL – 12.60?	NE	12.60?–19.45?	19.45?–22.6?	41.30-45.60B	45.6-48.40+D
				22.60?-25.00?	25.00?-41.30		
L2014 - 32	NE	GL – 5.40?	NE	NE	5.40? – 14.10	NE	14.10 – 18.10+

Notes: mbgl Meters Below Ground Level
+ Denotes base of stratum not encountered
NE Not encountered
Predominantly natural material – possibly made ground
? Uncertain boundary – recorded during open hole drilling
D Dolerite

TABLE 6: SUMMARY OF STRATA TYPES ENCOUNTERED IN TRIAL PITS FROM THE SOIL ENGINEERING 2015 INVESTIGATION

Trial Pit No	Made Ground (mbgl)	Marine Deposits (Sand and Gravel locally with Cobbles and Boulders) (mbgl)	Marine Deposits (Sandy, Gravely, Cobbles and Boulders) (mbgl)	Glacial Till (Variably Sandy Variably Gravelly Clay with Cobbles and Boulders) (mbgl)	Glacial Sand, Gravel Cobbles and Boulders (mbgl)	Weathered Granite/ Gneiss (Granite, Gneiss and Schist) (mbgl)	Less Weathered Granite/ Gneiss (Granite, Gneiss and Schist) (mbgl)
L2014-TP01	GL – 4.00+	-	-	-	-	-	-
L2014-TP02	GL – 3.50+	-	-	-	-	-	-
L2014-TP03	GL – 3.80+	-	-	-	-	-	-
L2014-TP04	GL – 3.60+	-	-	-	-	-	-
L2014-TP05	GL – 4.00+	-	-	-	-	-	-
L2014-TP06	GL – 0.30+	-	-	-	-	-	-
L2014-TP06A	GL – 0.50+	-	-	-	-	-	-
L2014-TP07	GL – 2.50+	-	-	-	-	-	-
L2014-TP08	NE	GL – 4.00+#	-	-	-	-	-
L2014-TP09	GL – 1.20	1.20-3.50+#	-	-	-	-	-
L2014-TP10	NE	GL – 4.40+#	-	-	-	-	-
L2014-TP11	GL – 1.20	1.20–4.00+# 4.00 – 4.50+	-	-	-	-	-
L2014-TP12	GL – 0.30	0.30-2.50+#	-	-	-	-	-
L2014-TP13	NE	GL – 4.00+#	-	-	-	-	-
L2014-TP14	NE	GL – 2.60+#	-	-	-	-	-
L2014-TP18	GL – 0.60	0.60-2.50+#	-	-	-	-	-
L2014-TP19	GL – 1.20	1.20-2.20+#	-	-	-	-	-
L2014-TP20	GL – 1.20	1.20-2.20+#	-	-	-	-	-
L2014-TP21	GL – 0.80	0.80 – 3.10+	-	-	-	-	-
L2014-TP22	GL – 1.20	1.20 – 3.10+	-	-	-	-	-
L2014-TP23	GL – 1.00	1.00 – 2.60+	-	-	-	-	-
L2014-TT01	GL – 0.80+	-	-	-	-	-	-
L2014-TT02	GL – 0.80+	-	-	-	-	-	-

Notes: mbgl Meters Below Ground Level
+ Denotes base of stratum not encountered
NE Not encountered
Predominantly natural material – possibly made ground

Summarised, there were 63 locations investigated in 2015 (23 trial pits, and 40 boreholes). In these made-ground was found in 26 of the boreholes and in 19 of the pits. Of these 45 locations with made-ground, 19 are located outside the area where development will take place i.e. on the Shore landfill or adjacent to roadways bordering the Ness Tip landfill. A further 7 of these do not contain any man-made items in the made-ground and comprise re-worked natural materials as the made-ground. This leaves 19 main locations of interest where made-ground was confirmed within areas that will be developed and containing man-made items.

As the boreholes extended up to 41mbgl in some places the geological logs from these 63 locations extends to hundreds of pages. Therefore it has not been directly reproduced in this report. Instead the reader is directed to open the following file: Soil Engineering 2015 – project number TC7606, Document F01, Volume 1 – page 61 of PDF file. This is the start of the geological log records and this extends to page 396.
To facilitate understanding of the significance of the ground conditions encountered a summary table has been produced which has extracted data on ground conditions from both borehole and trial pit logs for those locations where made-ground was encountered which contained anthropogenic materials.

Table 1- Summary of made-ground on site from 2015 Soil Engineering investigations. Those with anthropogenic content highlighted in pale grey. S=sand, G=gravel, B=boulders, C=cobbles)

Location	TP/BH	MG zone(mbgl)	MG description (anthropogenic highlighted)	Location in development	GW depth*	MG in contact with GW at time?	Installed & monitored	Chem test	Chem concern	Gas concern
L2014-5	BH	0-4.1	S, G, B, brick, concrete, tarmac	West Quay	33	no	no	no		
L2014-5A	BH	0-2.25	S, G, B, brick, concrete, tarmac	West Quay	dry	no	no	no		
L2015-5W	BH	0-4.1	S, G, B, brick, concrete, tarmac	West Quay	33	no	yes (30-40m)	no		n/a
L2014-6	BH	0-3.5	S, G, B, brick, concrete, timber	Shore landfill (out)	23.1	no	yes (0.5-4)	yes	no	no
L2014-6a	BH	0-4.2	S, G	Shore landfill (out)	22	no	no	no		
L2014-7	BH	0-3.05	S, G, B, brick, concrete, tarmac	Shore landfill (out)	dry	no	no	no		
L2014-7w	BH	0-4.7	S, G, B, brick, concrete, tarmac	Shore landfill (out)	11.7	no	yes (11-17)	yes	no	n/a
L2014-7WA	BH	0-4.7	S, G, B, brick, concrete, tarmac, slag	Shore landfill (out)	dry	no	no	no		
L2014-8	BH	0-5.65	S, G, B, brick, concrete, tarmac, slate, glass, wire, hardcore ash	Shore landfill (out)	dry	no	yes(0.5-5)			n/a
L2014-11	BH	0-0.3	S, G, tarmac (0.3m only)	North Quay (susp.deck)	2	no	no	yes	no	
L2014-13	BH	0-0.8	TS, S, G, C	West Quay	dry	no	yes (1.5-5)	yes	no	no
L2014-14	BH	0-1.5	TS, S, G, C, some slag	West Quay	3.6	no	no	yes	no	
L2014-15	BH	0-1.0	TS,S, G,C	access roads	dry	no	no	yes	no	
L2014-16	BH	0-0.80	TS,S, G, C.	access roads	dry	no	no	yes	no	
L2014-17	BH	0-1.2	TS,S, G, C.	access roads	dry	no	no	yes	no	
L2014-18	BH	0-2.2	TS, S, G, C some brick	access roads	dry	no	yes (0.5-2.1)	yes	no	no
L2014-19	BH	0-1.2	TS, S, G, C some brick	West Quay	dry	no	no	yes	no	no
L2014-19A	BH	0-3.65	S, G, B, brick, concrete	West Quay	12	no	yes (31.5-41.5	yes	no	
L2014-19B	BH	0-2	S, G, C, brick, concrete	West Quay	4.11	no	no	yes	no	
L2014-20	BH	0-4	S, G, C, brick, concrete but granite from 2.3m	West Quay	dry	no	yes(28-43)	yes	no	no
L2014-20A	BH	0-2.75	S, G, C, brick, concrete	West Quay	dry	no	no	yes	no	
L2014-22	BH	0-1	TS over granite	access roads	dry	no	yes (0-19.6)	no		
L2014-26	BH	0-3.2	S, G, concrete	West Quay	3.8	no	no	yes	no	
L2014-27	BH	0-0.16	TS, S, G, C.	Shore landfill (out)	33	no	yes (1-37)	yes	no	no
L2014-28	BH	0-0.2	TS, S, G, C.	Shore landfill (out)	0	no	yes (1-31)	yes	no	no
L2014-30	BH	0-1.2	TS, S, G, C.	Shore landfill (out)	dry	no	yes (1-8)	yes	no	no
L2014-TP01	TP	0-4	S, G, C, tarmac, porcelain, concrete, plastic	Shore landfill (out)	dry	no	na	yes		
L2014-TP02	TP	0-3.5	S, G, C, tarmac, porcelain, concrete, plastic	Shore landfill (out)	dry	no	na	yes		
L2014-TP03	TP	0-3.8	S, G, C, tarmac, porcelain, concrete, plastic	Shore landfill (out)	dry	no	na	yes		
L2014-TP04	TP	0-3.6	S, G, C, tarmac, porcelain, concrete, plastic, metals	Shore landfill (out)	dry	no	na	yes		
L2014-TP05	TP	0-4	S, G, C, tarmac, porcelain, concrete, plastic, metals	Shore landfill (out)	dry	no	na	yes	Pb at 0.5m	
L2014-TP06	TP	0-0.3	TS	West Quay	dry	no	na	yes		
L2014--6A	TP	0-0.5	TS	West Quay	dry	no	na	yes		
L2014-TP07	TP	0-2.5	thin TS, S, G, C, brick	West Quay	dry	no	na	yes		
L2014-TP09	TP	0-1.2	S, G, C, brick/concrete/metal to 0.8m.	West Quay	3.1	no	na	yes		
L2014-TP11	TP	0-1.2	S, G, C, metal to 0.8m.	West Quay	4.1	no	na	yes		
L2014-TP12	TP	0-0.3	S, G, C, brick/concrete/metal to 0.3m.	West Quay	dry	no	na	yes		
L2014-TP18	TP	0-0.6	thin TS, S, G, C,	West Quay	dry	no	na	yes		
L2014-TP19	TP	0-1.2	S, G, C, occ wire & porcelain	North Quay	dry	no	na	yes		
L2014-TP20	TP	0-1.2	S, G, C, occ brick.	North Quay	dry	no	na	yes		
L2014-TP21	TP	0-0.8	S, G, C, occ brick.	West Quay	dry	no	na	yes		
L2014-TP22	TP	0-1.2	S, G, C, occ brick.	West Quay	dry	no	na	yes		
L2014-TP23	TP	0-1	S, G, C, occ brick.	West Quay	dry	no	na	yes		
L2014-TT01	TP	0-0.8	TS, S, G, C.		dry	no	na	yes		
L2014-TT02	TP	0-0.8	TS, S, G, C.		dry	no	na	yes		

The significance of this initial summary table will be discussed further within the report as detail is given on the chemical testing and gas monitoring undertaken, as well as reference to outside data sources. However it can be clearly seen that the materials found in most locations are inert construction materials such as brick, tarmac and concrete; with occasional pieces of metal, ceramic and plastic. There was one piece of timber noted in borehole L2014-6. The materials are all of a low/no gas generation potential having no organic content or ability to decompose. No decomposable or organic materials were noted in any location. The majority of the ground was composed of local sand, gravel, cobbles and boulders which were mixed through with these materials.

The materials found can also be regarded as having very low leachable potential. They have been exposed to the tidal range in this area for at least 30 years already. They comprise large slabs of material in most cases, with a low surface area in relation to volume, and are found to be in recognisable condition with no obvious signs of degradation. Soil Engineering analysed the pH of two water samples directly and found a pH of 7-7.3 for those samples. The results can be seen in SAL report SAL488274 (see Appendix B of this report) for a sample from water in the base of TP9. These were an environmental suite and were considered against the resource protection value (RPV) or ES values in WAT=PS-10-01 for screening. No issues were identified in lab report SAL517853 (see Appendix B of this report) from three further boreholes (5W, 7W, 24W). Borehole 7W is within the Shore landfill, borehole 5W is within the West Quay and borehole 24W is on the lower shore at the north end of the West Quay. These samples were tested for the Scottish water drinking water test suite – a very stringent test panel intended for potable water, rather than an environmental suite. Not surprisingly for an inter-tidal zone, the chloride and sodium content is higher in these samples than in drinking water. There were also low total petroleum hydrocarbons (TPH) noted in the samples from the Shore landfill but the samples otherwise indicate no issues.

3.3 Sample choice

The trial pits where soil samples were obtained for analysis are named L2014- TP01 etc (locations shown in Appendix A) and there were 17 pits from 2015 used for the main analysis sampling, with 31 samples tested for the full environmental suite. In addition a lesser chemical suite was tested for from 34 soil samples for concrete specification locations but that analysis has less environmental relevance and has not been specifically included here. Numerous samples were taken from throughout each hole/hand pit and those thought most relevant were then submitted for lab analysis.

The trial pits were chosen for environmental sample analysis as the drilling methods required here were not best suited to provide specific undisturbed samples from within zones of interest. The trial pits were spaced in a non-targeted way across the site, including the Shore landfill area and the access routes. Spacing was even across the site to provide a good coverage of data for such a large development. The decision making process for trial pit location and sampling strategy was based on earlier site investigations from 2013 which had given a good overview of the inert ground conditions across the whole site. The intensity of the investigation was also guided by the intended final use of the development, location largely over the inter-tidal and over-water zones, and the minimal exposure pathways that would be created during construction and post-construction. It was also taken into account that one third of the bay was an ACC former landfill but would not be disturbed. When all of these factors were taken into account the sampling strategy was finalised. Sample depths were chosen to reflect the shallow made-ground which would provide greatest

exposure during site preparation, as well as deeper made-ground which might be impacted during structural engineering works involved in the development.

Soil samples were collected in accordance with BS10175:2011 using appropriate containers to avoid cross-contamination of samples. After collection, all samples were maintained at low temperature until being transferred to storage at 4°C while awaiting laboratory analysis. All samples were immediately submitted to Scientific Analysis Laboratories (SAL). The lab reports can be seen in Appendix B.

3.4 Analytical procedures

Laboratories and procedures are accredited by MCERTS. Soil samples were analysed for a number of species: metals, total petroleum hydrocarbons (TPH); benzene, toluene, ethylbenzene, and xylenes (BTEX), polycyclic aromatic hydrocarbons (PAH), phenols, asbestos fibres, cyanide, and sulphates to determine magnitude and persistence within the soil environment.

Metals were determined by aqua regia digestion, then analysis by inductively coupled plasma – optical emission spectroscopy (ICP-OES) and comparison to internal standards.

TPH and BTEX were determined by extraction from samples using a solvent extraction system suited to band size, followed by gas chromatography-flame ionisation detector (GC-FID) for C10-35 or gas chromatography - mass spectroscopy (GC-MS) with head space analysis for C8-10 and BTEX compounds, and quantified with reference to an added internal standard. PAH were extracted from the samples and the sample extracts were subject to clean-up using solid phase extraction chromatography. The United States Environment Protection Agency (USEPA) 16 PAH concentrations were determined by (GC-MS) SIR. Asbestos fibre presence/absence was determined by light microscopy. Phenols and sulphide were determined by colorimetry. Soluble sulphate was determined by ICP/OES following a 2:1 extraction. Sulphur was determined by ICP/OES directly.

The laboratory certificates are presented in Appendix B: Laboratory Results.

4 METHODS FOR RISK ASSESSMENT

The method for assessing each contaminant parameter is set out below. The intended use of the site is for a commercial harbour development. Risk assessment was undertaken to the LQM CIEH S4UL (Safe for Use Levels), released in late 2015. These use an updated version of the CLEA model (1.07) and have incorporated some updates in approach from the earlier LQM CIEH GAC limits which were generated using the CLEA 1.04 model. These criteria are used as an initial screening tool but where site conditions differ significantly from LQM standard conditions then any chemicals that may pose a potential risk can be modelled specifically using CLEA 1.07. All exposure pathways are valid unless specifically modelled otherwise but uptake by home-grown produce is not included in commercial assessments. At present they are being gradually adopted by regulators for the Scottish contaminated land situation as the value of them for an initial screening tool is seen.

The organic matter and pH of the soils were tested in all samples and ranged from pH 6.4 – 9.8 and 0.6 –5.8% organic matter. This is an average pH range for Scottish soils generally, although there are a number of samples at the higher pH 8-9 range. The organic matter range is also within normal ranges for typical Scottish made-ground or re-worked ground, as observed by ESL over thousands of samples. Therefore, samples were initially screened using the LQM criteria closest to their site specific organic matter values, with the option to carry out further risk assessment using CLEA 1.06 if required. The selection and justification of the risk assessment criteria has been further detailed in the report where required for clarity.

4.1 Soil Metals

For many of the metals (arsenic, mercury, cadmium, selenium, and nickel) the SGV is used as an initial screening tool. These are based on a sandy loam soil with an organic matter content of 6%. The SGVs therefore have value as a screening tool but are noted to be conservative in relation to the site values, which often have lower organic matter content. Should the site specific values prove to be marginally close to the SGV then further risk assessment should be undertaken. Where no SGV is available the LQM CIEH GAC has been used where available (for copper, zinc and chromium). The value for lead is the DEFRA C4SL which cannot be directly applicable to Scottish legislation but as the SGV was withdrawn 7 years ago it is the best currently available screening value based on contemporary risk assessment approaches. It is therefore being used in the meantime with caution, but as a first screen of the data.

4.2 Soil TPH

Currently, the U.K. approach for evaluating the risks from TPH is set out in the Environment Agency Science report P5-080/TR3, 2005. This document suggests a number of surrogate compounds that could be used to assess certain fractions for different pathways. However, as the guidance is not yet complete there are no official guidance criteria, and for some of these compounds approved toxicity data is not yet available and this is likely to be the case for the foreseeable future.

An attempt to overcome the deficiency of authoritative data for TPH in the UK was made by CIEH-LQM (CIEH-LQM, 2009). This guidance was commercially produced but using the Environment Agency CLEA model, and is widely used with the updated 2009 values to assess TPH contamination in the UK. For petroleum hydrocarbons, GAC are provided for both aliphatic and aromatic petroleum hydrocarbons for all molecular carbon bands. This has then been further updated by the release of the 2015 LQM CIEH Safe For Use Levels (S4UL) and these are also referenced.

These are used as an initial screening tool but where site conditions differ significantly from LQM standard conditions then any chemicals that may pose a potential risk can be modelled specifically using CLEA 1.06. Further risk assessment to more site specific conditions can be carried out taking into consideration the intended commercial use and the site specific organic matter to further refine the risk assessment.

4.3 Soil PAH

The risk assessment values for individual PAH are also from the 2009 LQM CIEH and 2015 LQM S4UL's and allow the use of specific criteria for every PAH compound commonly assessed: namely the 16 compounds known as the "USEPA 16".

4.4 Soil BTEX

BTEX compounds are assessed against the Soil Guideline Values published by the Environment Agency in 2009, and again are based on a sandy loam soil with a 6% organic matter content as an initial screen of the data. In addition the LQM CIEH S4UL screening levels for 1% OM are used.

4.5 Soil asbestos fibres

Based on the known past use of the site the most likely source of asbestos would be from demolition material and construction wastes. In this case the screening is for the presence/absence of fibres, with any presence of asbestos fibres a potential cause for further action/consideration.

4.6 Soil phenol

Risk assessment values for phenol can be found as an SGV for 6% organic matter for all three land use types, but it should be noted that phenol is naturally occurring, but in the wider environment is usually the result of human activities such as the distillation of coal tar or petroleum. This SGV can be used as an initial screening tool but where site conditions differ significantly from SGV standard conditions then any chemicals that may pose a potential risk can be modelled specifically using CLEA 1.06. There are also LQM CIEH GAC for phenol, and more recent LQM CIEH S4UL's for a variety of land uses and organic matter bands.

4.7 Other soil parameters

The determination of these parameters is to facilitate the generation of site specific assessment criteria where necessary, but also provides an input into the assessment of concrete specification (where this has been requested), and an insight into the potential availability and mobility of metals and ionic compounds. Organic matter content can indicate the presence of material with the potential to produce ground gases, as well as being indicative of the retention ability of the soil for chemical contaminants.

5 RESULTS OF INTRUSIVE SITE INVESTIGATION- LAND BASED SAMPLES

The results of the laboratory analysis carried out on soil samples collected during the site investigation are presented in this section. Soil samples were analysed for metals, total petroleum hydrocarbons (TPH), BTEX, polycyclic aromatic hydrocarbons (PAH), phenol, asbestos, cyanide, pH and organic matter.

5.1 Soil Metals

The concentrations of metals determined in soil collected from the site are presented in Table 2 below. Available assessment criteria are also presented in the Table. For metals, assessment criteria comprises of:

- Land Quality Management/Chartered Institute for Environmental Health- for Human Health Risk Assessment (LQM-CIEH S4UL's, 2015, referred to as "LQM S4UL" in the tables of section 5)
- Defra C4SL concentration used for lead in absence of an alternative.

Table 2 - Concentration of metals in soil samples collected mg/kg dry matter (DM)

Location	TP01 ES 001	TP01 ES 007	TP03 ES 001	TP03 ES 007	TP03 ES 013	TP04 ES 004	TP04 ES 008	TP05 ES 004	TP05 ES 011	TP08 ES 004	TP08 ES 011	TP09 ES 005	TP10 ES 004	TP10 ES 014	TP11 ES 004	TP11 ES 011	TP12 ES 005	TP13 ES 004	TP13 ES 011	TP14 ES 004	TP18 ES 004	TP18 ES 011	TP07 ES 004	TP07 ES 008	TP20 ES 004	TP20 ES 008	TP21 ES 004	TP21 ES 008	TP22 ES 004	TP22 ES 008	TP23 ES 004	LQM CIEH
Depth mbgl	0.15	2.25	0.3	2.5	3.8	0.5	2	0.5	3	0.5	3	1	0.5	4	0.5	3	1	0.5	3	0.5	0.5-2.15	0.5-2.15	0.5	2	0.5	2	0.5	2	0.5	1.5	0.5	**S4UL comm.**
Arsenic	6	7	14	9	9	5	6	13	12	4	4	8	3	5	9	7	4	6	7	6	19	5	9	10	6	10	12	9	17	2	13	640
Boron	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	14	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	240000
Cadmium	<1	<1	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	190
Chromium	36	26	21	23	19	21	29	68	39	23	17	41	18	19	23	30	19	24	26	12	27	9	34	28	24	26	23	39	19	31	22	8600
Chromium VI	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	33
Copper	38	81	67	44	52	49	61	280	300	46	14	31	7	12	21	25	16	51	33	15	23	4	48	21	27	22	16	14	15	11	10	68000
Lead	48	120	1800	580	870	230	260	7100	1400	590	24	54	12	29	33	22	16	83	69	11	27	3	27	39	93	64	18	18	29	10	11	*2330***
Mercury	<1	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	25.8 to 1100*
Nickel	21	18	23	18	16	17	19	23	21	14	11	35	12	14	17	22	11	20	23	8	22	6	24	19	16	17	11	21	10	17	12	980
Zinc	80	100	650	420	420	140	170	2100	600	260	59	85	66	61	69	68	38	65	73	27	55	20	130	87	91	99	50	84	51	52	44	730000
Selenium	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	12000
%Org.M.	1.5	2.8	4.4	5.6	3.4	3.5	4.1	5.1	3.2	1	0.6	1.1	1.9	0.4	1.1	0.6	0.7	0.8	1.8	<0.1	5.8	0.3	2.4	2.3	3.2	2	2.4	1.6	2.4	0.3	1.2	

In all but one of the samples there were no metals found in exceedance of the guidance limits, and in the majority of samples the metal concentrations were below the limit of detection or very low in relation to the limits. There was one single exception where lead was very elevated in TP05 from 0.5mbg, but at 3mbgl this was well below a concentration of concern.

**No S4UL for lead so Defra C4SL used as alternate

5.2 Soil Total petroleum hydrocarbons (TPH)

The concentrations of TPH determined in soil collected from the site are presented in Table 3 below. Assessment was made initially using the 1% OM values in LQM S4UL 2015

Table 3 - Concentration of TPH in trial pit soil samples collected, mg/kg DM

	Location	TP01 ES 001	TP01 ES 007	TP03 ES 001	TP03 ES 007	TP03 ES 013	TP04 ES 004	TP04 ES 008	TP05 ES 004	TP05 ES 011	TP08 ES 004	TP08 ES 011	TP09 ES 005	TP10 ES 004	TP10 ES 014	TP11 ES 004	TP11 ES 011	TP12 ES 005	TP13 ES 004	TP13 ES 011	TP14 ES 004	TP18 ES 004	TP18 ES 011	TP07 ES 004	TP07 ES 008	TP20 ES 004	TP20 ES 008	TP21 ES 004	TP21 ES 008	TP22 ES 004	TP22 ES 008	TP23 ES 004	LQM S4UL 1%
	Depth	0.15	2.25	0.3	2.5	3.8	0.5	2	0.5	3	0.5	3	1	0.5	4	0.5	3	1	0.5	3	0.5	0.5-2.15	0.5-2.15	0.5	2	0.5	2	0.5	2	0.5	1.5	0.5	mg/kg
Aliphatic	C5-C6	<0.200	<0.200	<0.200	<0.200	<0.200	<0.100	<0.200	<0.200	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.1	<0.1	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	3200
	C6-C8	<0.20	<0.20	<0.20	<0.20	<0.20	<0.10	<0.20	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.1	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	7800
	C8-C10	<0.20	<0.20	<0.20	<0.20	<0.20	<0.10	<0.20	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.1	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	2000
	C10-C12	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<1	<1	<10	<1	<1	<10	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	9700
	C12-C16	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<2	<2	<10	<2	<2	<10	<2	<2	<10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	59000
	C16-C21	20	<10	<10	<10	<10	23	19	<10	<10	<10	<10	<1	<1	<10	<1	<1	<10	<1	<1	<10	<1	<1	<1	<1	2	<1	<1	2	<1	<1	2	1600000
	C21-C35	210	<10	<10	<10	<10	260	220	<10	<10	<10	<10	<4	<4	<10	<4	<4	<10	<4	<4	<10	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	1600000
	C35-C44	63	<10	<10	<10	<10	110	110	<10	<10	<10	<10	<1	<1	<10	<1	<1	<10	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Aromatic	C6-C7	<0.20	<0.20	<0.20	<0.20	<0.20	<0.10	<0.20	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.1	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	26000
	C7-C8	<0.20	<0.20	<0.20	<0.20	<0.20	<0.10	<0.20	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.1	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	56000
	C8-C10	<0.20	<0.20	<0.20	<0.20	<0.20	<0.10	<0.20	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.1	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	3500
	C10-C12	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<1	<1	<10	<1	<1	<10	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	16000
	C12-C16	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<1	<1	<10	<1	<1	<10	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	36000
	C16-C21	22	<10	<10	47	<10	26	16	<10	<10	<10	<10	<1	<1	<10	<1	<1	<10	<1	<1	<10	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	28000
	C21-C35	360	<10	<10	440	<10	410	320	280	<10	<10	<10	<1	<1	<10	<1	<1	<10	<1	<1	<10	<1	<1	<1	<1	4	<1	<1	<1	<1	<1	<1	28000
	C35-C44	150	<10	<10	170	<10	220	200	260	<10	<10	<10	<1	<1	<10	<1	<1	<10	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	

There were no exceedances of the limits and the majority of samples were below the limit of detection.

5.3 Soil Polycyclic aromatic hydrocarbons (PAH)

The concentrations of PAH determined in soil samples collected from the site are presented in Table 3 below. Assessment was again made initially using 1% values in LQM S4UL, 2015, with further risk assessment then carried out using the sample specific organic matter content if potential risk remained.

Table 4 Concentration of PAH in trial pit soil samples collected, mg/kg DM

Location	TP01 ES 001	TP01 ES 007	TP03 ES 001	TP03 ES 007	TP03 ES 013	TP04 ES 004	TP04 ES 008	TP05 ES 004	TP05 ES 011	TP08 ES 004	TP08 ES 011	TP09 ES 005	TP10 ES 004	TP10 ES 014	TP11 ES 004	TP11 ES 011	TP12 ES 005	TP13 ES 004	TP13 ES 011	TP14 ES 004	TP18 ES 004	TP18 ES 011	TP07 ES 004	TP07 ES 008	TP20 ES 004	TP20 ES 008	TP21 ES 004	TP21 ES 008	TP22 ES 004	TP22 ES 008	TP23 ES 004	LQM S4UL
Depth mbgl	0.15	2.25	0.3	2.5	3.8	0.5	2	0.5	3	0.5	3	1	0.5	4	0.5	3	1	0.5	3	0.5	0.5-2.15	0.5-2.15	0.5	2	0.5	2	0.5	2	0.5	1.5	0.5	1% OM
Naphthalene	<0.1	0.2	<0.1	<0.1	<0.1	1.2	3.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	190
Acenaphthylene	<0.1	0.1	0.1	<0.1	<0.1	0.4	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	83000
Acenaphthene	<0.1	0.3	<0.1	<0.1	<0.1	1	1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	84000
Fluorene	<0.1	0.3	<0.1	<0.1	<0.1	1.1	1.2	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	63000
Phenanthrene	0.3	2.5	1	0.4	0.7	8.4	8.6	0.3	2.1	0.1	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	22000
Anthracene	<0.1	0.7	0.2	<0.1	0.1	2.5	2.5	<0.1	0.5	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	520000
Fluoranthene	0.6	3.6	2.1	0.8	1.1	9.7	9.5	0.6	2.3	0.3	0.1	<0.1	<0.1	0.8	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	1.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	23000
Pyrene	0.7	3.4	2	0.8	1	9.8	9.3	0.6	2.3	0.2	<0.1	<0.1	<0.1	0.7	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	1.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	54000
Benz(a)anthracene	0.3	1.5	0.9	0.4	0.5	4.5	4.1	0.3	1.1	0.2	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	170
Chrysene	0.3	1.3	1.1	0.3	0.4	3.2	3.2	0.2	0.8	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	350
Benzo(b)fluoranthene	0.5	2.1	1.9	0.3	0.5	3.2	3.2	0.3	0.8	0.2	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	44
Benzo(k)fluoranthene	0.2	0.7	0.9	0.3	0.4	2.3	2.7	0.2	0.6	0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1200
Benzo(a)pyrene	0.5	1.6	1.3	0.3	0.6	3.9	4	0.4	0.9	0.2	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	35
Indeno(123cd)pyrene	0.2	0.6	0.7	0.2	0.4	1.9	1.9	0.3	0.4	0.2	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	500
Dibenzo(ah)anthracene	<0.1	0.2	0.2	<0.1	<0.1	0.6	0.6	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	3.5
Benzo(ghi)perylene	0.3	0.7	0.9	0.3	0.5	3	2.9	0.4	0.6	0.3	0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	3900
Total PAH	3.9	20	13	4	6.1	57	58	3.6	14	1.6	0.2	<0.1	<0.1	4.4	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	5.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	

All samples were below the level of probable risk and many were below the stringent level of detection

5.4 Soil BTEX

The concentrations of BTEX and MTBE determined in soil collected from the site are presented in Table 5 below. Assessment was made initially using the 2015 LQM S4ULs. The SGV is shown here as an alternate for MTBE.

Table 5 - Concentration of BTEX & MTBE in soil samples collected, mg/kg DM

Location	TP01 ES 001	TP01 ES 007	TP03 ES 001	TP03 ES 007	TP03 ES 013	TP04 ES 004	TP04 ES 008	TP05 ES 004	TP05 ES 011	TP08 ES 004	TP08 ES 011	TP09 ES 005	TP10 ES 004	TP10 ES 014	TP11 ES 004	TP11 ES 011	TP12 ES 005	TP13 ES 004	TP13 ES 011	TP14 ES 004	TP18 ES 004	TP18 ES 011	TP07 ES 004	TP07 ES 008	TP20 ES 004	TP20 ES 008	TP21 ES 004	TP21 ES 008	TP22 ES 004	TP22 ES 008	TP23 ES 004	SGV	LQM CIEH
Depth(mbgl)	0.15	2.25	0.3	2.5	3.8	0.5	2	0.5	3	0.5	3	1	0.5	4	0.5	3	1	0.5	3	0.5	0.5-2.15	0.5-2.15	0.5	2	0.5	2	0.5	2	0.5	1.5	0.5	mg/kg	S4UL
Benzene	<20	<20	<20	<20	<20	<10	<20	<20	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	95	27
Toluene	<20	<20	<20	<20	<20	<10	<20	<20	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	4400	56000 (869)
EthylBenzene	<20	<20	<20	<20	<20	<10	<20	<20	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	2800	5700 (518)
MTBE	<20	<20	<20	<20	<20	<10	<20	<20	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	7900	na
MP Xylene	<20	<20	<20	<20	<20	<10	<20	<20	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	3200	5900
O Xylene	<20	<20	<20	<20	<20	<10	<20	<20	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	2600	6600

All of the soil concentrations on site were below the stringent limit of detection and no further risk assessment was required.

5.5 Soil miscellaneous

A number of different factors were then screened for in these soils. This include the concentration of phenol and cyanide, the presence of asbestos fibres, and the sulphur/sulphide/soluble sulphate status of the soil for ACEC concrete classification.

Table 6 Concentration of miscellaneous chemicals in soil samples collected,

	Location	TP01 ES 001	TP01 ES 007	TP03 ES 001	TP03 ES 007	TP03 ES 013	TP04 ES 004	TP04 ES 008	TP05 ES 004	TP05 ES 011	TP08 ES 004	TP08 ES 011	TP09 ES 005	TP10 ES 004	TP10 ES 014	TP11 ES 004	TP11 ES 011	TP12 ES 005	TP13 ES 004	TP13 ES 011	TP14 ES 004	TP18 ES 004	TP18 ES 011	TP07 ES 004	TP07 ES 008	TP20 ES 004	TP20 ES 008	TP21 ES 004	TP21 ES 008	TP22 ES 004	TP22 ES 008	TP23 ES 004	LQM
Units	Depth (mbgl)	0.15	2.25	0.3	2.5	3.8	0.5	2	0.5	3	0.5	3	1	0.5	4	0.5	3	1	0.5	3	0.5	0.5-2.15	0.5-2.15	0.5	2	0.5	2	0.5	2	0.5	1.5	0.5	S4UL
mg/kg	Phenol (mono)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	66
mg/kg	Cyanide (total)	<1	<1	1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
mg/l	Sol. SO4	11	<10	15	410	230	<10	<10	69	57	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	500 (AC-1)
mg/kg	Sulphide	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
%	Sulphur	0.02	0.02	0.11	0.18	0.08	0.04	0.05	0.1	0.64	0.04	0.03	0.01	0.03	0.03	0.02	0.02	0.02	<0.01	0.02	0.01	0.04	<0.01	0.03	0.02	0.03	0.03	0.02	0.02	0.29	<0.01	<0.01	
presence	Asbestos	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
	pH	9.8	8.8	8.7	8.1	6.4	7.6	8.1	7.7	7.9	8.8	8.7	8.4	8.3	8.5	8.2	8	8.6	9.1	8.3	7.9	7.3	7.2	8.3	7.8	7.2	7.4	6.8	6.8	6.4	6.9	6.7	
%	Organic matter	1.5	2.8	4.4	5.6	3.4	3.5	4.1	5.1	3.2	1	0.6	1.1	1.9	0.4	1.1	0.6	0.7	0.8	1.8	<0.1	5.8	0.3	2.4	2.3	3.2	2	2.4	1.6	2.4	0.3	1.2	

Soluble sulphate, sulphide and sulphur were assessed to aid in concrete specification for the harbour development. This was also compared to an additional 34 samples which were screened for soluble sulphate, chloride and magnesium. Soil Engineering concluded an ACEC AC-2 class concrete was most suitable for the site. There was no detectable phenol, cyanide or asbestos in the samples. The pH was largely within the normal range of pH5-8 for Scottish soil but with some at pH 8-9 noted. The organic matter was within normal ranges observed by ESL within typical made-ground.

6 RESULTS OF INTRUSIVE SITE INVESTIGATION - DREDGE SAMPLES

In 2016 an over-water/marine drilling campaign was undertaken to determine the geotechnical capacity of this dredged material for reclamation on land during the development, and to determine the suitability of the material for disposal at sea (to support the marine licence application). As part of this process a total of 225 samples were submitted for laboratory screening for a range of heavy metals, speciated PAH's, tributyl tin and PCB's. The results of this analysis can be seen in SAL lab reports SAL551705 and SAL 555659 in Appendix B. The location of the cores can be seen in Appendix C.

SAL 551705 contains 188 sample results. These derive from 105 RC-2016 Rotary Core holes. There were a total of 9 Rotary Core holes drilled in the bay. This report also includes 83 samples from the Vibrocore 2016 (VC-2016) cores. There were a total of 24 vibrocore holes drilled during the investigation. These results were produced during March 2016. The following lab report in early April 2016 contains a further 19 RC-2016 results, and 4 additional VC-2016.

These 225 lab results were screened against the S4UL's commercial land use values for 1% organic matter produced by LQM in 2015, as also used above for the trial pit and borehole samples from on-land. The results of this screening are:

- No metals were above concentrations of concern
- There were no detectable PCB's or Tributyl tin
- Speciated PAH's were all at low concentrations and none were above the concentrations of concern.

To support the marine licence application, the results were compared to Marine Scotland's Revised Action Levels for the disposal of dredged sediment, and the 'Effects Range Low (ERL)/Effects Range Medium (ERM)' (Gorham-Test, 1998), for a range of parameters including heavy metals, polycyclic aromatic hydrocarbons and polychlorinated biphenyls. Full details of this assessment are presented in the Additional Environmental Information Report, available on AHB's website (www.aberdeen-harbour.co.uk/future/nigg-bay-documents/). Marine Scotland deemed that all the material to be dredged was suitable for sea disposal, and on 4th November 2016 issued a licence to AHB to dispose of 2,191,000 m^3 of dredged material at sea. The criteria for disposal of material in the marine environment are more stringent that the criteria for human health risk assessment on land. Therefore, it has been proven on both platforms that the material within the bay which will be excavated to create the deep water harbour will pose no risk for re-use on land or disposal at sea.

7 GROUND GAS INVESTIGATION (CLIENT LED)

Eleven boreholes were installed by Soil Engineering in 2015 for gas monitoring. These were L2014-4/6/8/13/18/19A/20/27/28/29/30 (see Appendix A for locations). In addition ACC had already installed 3 boreholes by the roadside at the south end of the site (named here as ACC1-3), monitoring gas migration from the adjacent closed Ness Tip landfill. No gas monitoring data was available from ACC for these boreholes at the time of this investigation or those on the former landfill.

The boreholes named above were spaced across the site where made-ground had been encountered with a particular focus on the south end of the Bay, nearest to the closed Ness Tip landfill. It was anticipated that the main external source of ground gas would be this landfill, and the main internal source would be the Shore landfill – although the latter was already shown to be inert fill from the site investigation. These boreholes were screened at a range of depths- this is summarised in Table 8 of the Soil Engineering 2015 report – Volume 1, page 27 – see Section 8 of this report for response zones).

Many of the boreholes are screened for response zones at great depth for geotechnical assessment. However boreholes 6, 8,13, 18 and 27-29 include response zones in the upper made or re-worked ground levels and therefore are the most useful for this investigation.

Northern Soil Surveys was instructed to undertake gas monitoring at all of the installed boreholes at 7-10 day intervals over the summer of 2016. This was possible at all except L2014-8, 5W, 24W and ACC3. Borehole 8 had been installed with a tall protective cover and the gas tap sunk below ground level. As a result it was not possible to actually reach the gas tap from the top of the cover in order to remove or replace it for monitoring. After several attempts this borehole was therefore removed from the monitoring list. ACC3 could not be found in long grass despite repeated attempts. Borehole 5W & 24W were specifically installed for pump testing to confirm groundwater interaction with potential piling methods for construction being considered at that time.

> Risk assessments for gas are undertaken primarily to identify the short-term acute risks (explosion, asphyxiation) and the long-term chronic risks (exposure effects on human health) (Nathanail et al. 2002), for gases present at the site under consideration for development. Gas production and composition are influenced by many variables, which can change at different times of the year, including: atmospheric pressure; changes in the level of the water table; and temperature.
>
> Ground gas generation potential relates to a number of factors which can be used to make an initial characterisation of a site at the gas investigation design stage. Ground which is likely to pose a risk of ground gas generation would contain a moderate to high organic matter content, a notable TOC content, the presence of degradable materials such as rotting vegetation/household food waste/animal manure/wood/peat/pond sediment and potentially also fuel/oil based hydrocarbons. It should be noted that the TOC can be misleading where items such as coal and clinker are present because they contain a high TOC content but are inert and will not degrade to produce gas. Therefore, the ground conditions determined here from the 2013 trial pits, and 2015 trial pits and boreholes were examined for indications of the ability to generate gases. All of the material was laid here at least 30 years ago and has therefore passed the time period in which main gas production would exist in productive waste. No household or animal waste was laid here. No vegetation was found below ground. There was only one single piece of wood noted below ground. The man-made materials present are not gas generating but inert- such as brick, concrete, and ceramic. Therefore the conceptual risk assessment indicates that gas generation potential is negligible and the risk from the site is not anticipated to pose a risk to the

development. As no data was provided from ACC Ness Tip landfill at this time the focus of the gas monitoring was to assess migratory gases from this off-site source.

Gas monitoring should be undertaken over a sufficient time period to ensure a comprehensive gas risk assessment. It is stated in CIRIA C665 that "the monitoring period should, for a specific site, cover the "worst case" scenario. Such a "worst case" scenario will occur during falling atmospheric pressure and, in particular, weather conditions such as rainfall, frost and dry weather. The most rapid falls in atmospheric pressure occur when the pressure was initially high, for example 1010 or 1020 mb." Due to the timing of this investigation it was not possible to carry out initial gas monitoring during periods of frost, but periods of dry weather and low pressure have been possible.

Gas monitoring at this site comprised measurement of the following parameters in each monitoring well: methane, carbon dioxide, oxygen, nitrogen, hydrogen sulphide, gas flow rate, differential pressure and water level. Measurements were taken by first checking the differential pressure in the borehole. If this was zero (as it was in all these boreholes) then a "no flow rate" was recorded. Flow measurements were taken as a precaution. The concentrations of individual gases were then measured and recorded as both peak and steady states. Atmospheric pressure and temperature were recorded. Following this water monitoring could take place to determine depth to water level, and purge where appropriate

Assessment of risk is initially undertaken by comparison of gas levels and concentrations against values published within CIRIA C665 which contains guidance to consolidate "good practice in investigation, the collection of relevant data and monitoring programmes in a risk-based approach to gas contaminated land".

The results of the gas monitoring can be used to determine a semi-quantitative assessment of risk by calculating a Gas Screening Value (GSV) using the procedure adopted in CIRIA 665 (Wilson et al. 2007). This document separates sites into different development types: Situation A includes all sites excluding low rise residential housing with a ventilated underfloor void (minimum 150mm). This site will therefore fit into Situation A and therefore will be assessed accordingly.

The gas screening value represents litres of gas emitted from a borehole per hour. The calculation is undertaken for both carbon dioxide and methane and the worst case value is adopted. The gas screening value (GSV) is calculated by multiplying the borehole flow rate (l/h) by the gas concentration (%). Note (GSV =Flow* by max gas concentration/100) see example. GSV for each borehole are presented in Table 7 below. The individual gas monitoring sheets from each visit can be seen in Appendix D along with the calibration certificate for the meter used.

Table 7 – GSV for Nigg Bay boreholes (methane and carbon dioxide)

Borehole	Response Zone (m)	Evidence of made-ground	No. of monitoring occasions	Methane (%)	Carbon Dioxide (%)	Oxygen (%)	Flow (l/hr)	Water Levels (mbegl)	Range of atmospheric pressure during monitoring round (mb)	Gas Screening Value, GSV (l/hr) (max conc x max flow)	Risk Classification
BH4	41-44	No	6	<0.1	<0.1-0.2	19.5-20.2	<0.1	2.62-3.47	997-1022	0.0002	Very Low Risk (CS1)
BH6	0.5-4.0	Yes		<0.1	<0.1-0.2	20.4-20.8	<0.1	dry		0.0002	Very Low Risk (CS1)
BH13	1-5	Poss. re-worked natural		<0.1	0.8-2.5	17-19.5	<0.1	3.4-3.55		0.0025	Very Low Risk (CS1
BH18	0.5-2.1	Re-worked natural		<0.1	1.5-7.3	15.8-20.5	<0.1	2.0-2.08		0.0073	Very Low Risk (CS1)
BH19	31.5-41.5	No		<0.1	0.5-2.0	17.1-20.0	<0.1	2.41-3.38		0.002	Very Low Risk (CS1)
BH20	28.2-43.1	No		<0.1	<0.1	20.7-21.0	<0.1	2.47-3.42		<0.0001	Very Low Risk (CS1)
BH27	1-37.7	No		<0.1	<0.1-3.5	12.8-20.9	<0.1	7.56-8.03		0.0035	Very Low Risk (CS1)
BH28	1-34.5	No		<0.1	<0.1-2.6	18.5-20.1	<0.1	12.07-12.83		0.0026	Very Low Risk (CS1)
BH29	1-10.75	No		<0.1	0.2-1.1	19.7-20.1	<0.1	5.08-5.16		0.0011	Very Low Risk (CS1))
BH30	1-8.0	No		<0.1	<0.1	20.5-20.8	<0.1	3.79-3.83		<0.0001	Very Low Risk (CS1)
ACC1	No info	na		<0.1	<0.1	20.7-20.8	<0.1	17.12-17.41		<0.0001	Very Low Risk (CS1)
ACC2	No info	na		<0.1	<0.1	18.6-20.7	<0.1	4.71-4.79		<0.0001	Very Low Risk (CS1)

CIRIA C665, Table 8.6 indicates :-

Site Characterisation Situation	Risk level	Scope of protective measures	No. levels of protection	Additional factors	Typical source of generation
CS 1	Very low	No special precautions	None	Typically methane <0.1% and CO2 <5%	Typical made-ground, natural soils with low organic content

Reference is made to of Table 8.5 of CIRIA C665, which specifies that a site with a GSV of <0.07 has a “very low risk” and is classed as a “Characteristic Situation 1”. This applies to sites which have “natural soils with “typical” made-ground”.

The highest GSV recorded was for carbon dioxide from BH18 but again there was no recordable flow rate. A cross-check was made with the drilling log for each location and in all cases the ground was either natural sandy, silty, clayey, gravelly materials, or re-worked ground of the same. The only location monitored where man-made fill was present was BH6. Again this had no recordable flow and all gas concentrations were normal.

The risk classification for the site is ‘very low’. The soil gas monitoring exercise has not revealed soil gas concentrations of methane and carbon dioxide at levels which would require gas protection measures to be implemented in any location. It should be noted there is no recordable flow in any of these locations and no recordable methane. Monitoring was also undertaken at this site in low atmospheric pressure. As there was no recordable flow rate at any time during monitoring works, and in combination with our previously discussed knowledge of the negligible potential for gas generation materials present belowground, it can be concluded that this data indicates strongly no risk of ground gases being generated on site at this time.

8 NESS TIP LANDFILL- BACKGROUND INFORMATION

The now-closed Ness Tip landfill was operated by ACC, still the current landowner, and lies to the south-west of the harbour development. There is no direct contact between the landfill and the development area. The closest point is where the South Breakwater access road exits from the AC owned Shore landfill onto the Coast Road.

The Ness Tip landfill closed in 2009 and went through a 4-phase period of restoration and capping works, which was completed in 2013. Monitoring began on site in 2004, to establish baseline data, and continues now with a detailed programme of quarterly, 6-monthly and annual monitoring undertaken. At present this is carried out by Fairhurst, on behalf of SUEZ, who report to ACC.

The monitoring consists of a number of boreholes both on and off-site, and surface water sampling points. The detail of the monitoring programme has been agreed with SEPA.

Copies of the reports on the monitoring programme were obtained in December 2016. The most recent annual report (reference DID-55496-202) documents the monitoring from June 2015 to June 2016. This is over 1,000 pages long and can be provided as a separate document but has not been included as an appendix to this report for that reason. Where relevant, references to individual report sections are included.

The landfill covers an extensive area with 61 boreholes and 8 surface water monitoring points on the Ness Farm area alone. The locations of these were examined and the boreholes closest to the site, and the row immediately “behind” these were identified, and the data from those specifically examined within this report. These would be the most likely to impact on the site. The different data sets contained with the annual report are examined in turn in relation to potential risk from the ACC landfill to the site. Note locations N6 & N9 are no longer monitored, but previous years’ data from these locations was considered.

8.1 Low Level Radioactive waste areas

It is known that there is an area of “low level radioactive waste” contained within the Ness Tip landfill. The following information was provided by Fairhurst: “ *Ness Landfill was licensed for the disposal of household, industrial, commercial, fragmented and stabilised drilling mud’s (with mineral oil), asbestos, low level radioactive materials, silt dredgings and inert wastes. It is understood that the mix of wastes disposed in the landfill area is about 10% household and 90% commercial / industrial and that much of the household waste disposed of was pre-treated by wet pulverisation in a Dano drum.*

During operation, disposal of low level radioactive waste was carried out within separately constructed “segregation” cells within the Ness Area of Ness Farm Landfill. No documented records are available detailing the exact coordinates of these cells within the landfill, and as such, the inferred positions, identified on Drawing No. 55496/8012, were compiled from plans held by Aberdeen City Council. (ESL: this can be seen in Appendix E, radioactive waste area cross-hatched in red)

During restoration a hazardous waste separation layer (1500mm) comprising non-hazardous materials was placed over the low level radioactive waste cells. This was subsequently overlain by the engineered landfill cap comprising geo-composite gas collection strips, a Geosynthetic Clay Liner, a surface water infiltration collection layer and 800mm of Class 4A and Class 5A/B capping materials

Tritium is monitored in selected groundwater monitoring wells on a six monthly basis and more extensively on an annual basis. The most recent review of the results is presented in the annual environmental monitoring review provided (DID/55496/202, Section 5.1.4.4)."

The annual report confirms that tritium could be present in Scottish landfills in either domestic or commercial waste. As such this is the isotope measured in Ness Tip landfill. However, the UK Department for Environment stated in 1995 that "neither natural nor anthropogenic tritium is considered to pose any health risk to the general public". Further the WHO do not have a drinking water limit for tritium as it is not considered radiotoxic. There is a UK Drinking Water standard for tritium and it is against this limit that the borehole samples from the landfill are screened. It was found last year that some wells within and downgradient of the landfill exceeded this limit, and that it was historically the same wells annually that showed elevated levels. However, the report states there is no clear correlation between the low level radioactive waste cells and the locations of elevated tritium in groundwater. In addition, wells which are located in the south of the landfill, and nowhere near the waste cells, show similar concentrations to those near and downgradient of the waste. It is concluded the relationship between tritium and groundwater is complex at this site and it concludes that tritium from the landfill is affecting the groundwater. The radioactive waste cells are in capped areas fitted with a geotextile clay liner and 2.5m of capping cover.

Those wells closest to the harbour site with elevated tritium are N11A, N62A, and N76. Well N11A (due south of sewage treatment works) is reported to be consistently dry or with very low levels of groundwater. It is installed to 8.5mbgl and this therefore demonstrates that groundwater here is well below the depth at which work on the harbour site would reach. The water table here is therefore more likely to be in direct connectivity with the marine water in the bay ultimately.

N76 is 12.5m deep with groundwater around 5mbgl. However this is located opposite the upper cliffs of the SSSI protected geological features on the Nigg shore landfill and is thought to be hydraulically connected to the surface water Burn here. This would not impact groundwater on the site therefore.

N62A is located within the landfill itself, directly north of one of the capped cells. It was also installed to around 15m depth, with groundwater varying between 5-12m below the cap. Other wells located downgradient, between these three and/or closer to the harbour development are not impacted by tritium these (N13A, N79, N69, N68A, N19B, and N20). Therefore impact at N62A does not seem to have a wider influence outside site.

It should be noted that tritium is not monitored by ACC/its consultants in the surface water points exiting into Nigg Bay as part of the monitoring programme for the landfill. This should potentially be considered by them for the future.

It can therefore be concluded that whilst tritium from the Ness Tip landfill is impacting groundwater, this is a complex relationship and any potential impact on the harbour development seems unlikely due to depth to groundwater, and the complex spatial relationship between affected locations in relation to the site layout. It is recommended that ACC include potential impact on new external receptors within their annual review of the monitoring schedule since the land use dynamic will change as the new harbour develops. However there is no suggestion that the tritium would pose a risk to the construction of the new harbour.

8.2 Gas monitoring (Section 4.0 of the Annual Report)

Monitoring results are presented in relation to the Phased Zone of restoration for the landfill, or as external monitoring points closest to each phase. Phase 1 is to the far south and unlikely to be relevant to the harbour development site. Phase 2 lies to the south-west of the sewage pumping station. The boreholes in Phase 2 showed a lower than average content of methane (21%) and carbon dioxide (12%) in comparison to previous year. Phase 3 (south-east of the sewage pumping station) gas concentrations were slightly elevated in comparison to previous years and Phase 4 (south of Phase 3) was consistent with previous years. It was noted that the monitoring frequency has also been reduced as the site is regarded to be at "equilibrium" and the reduced monitoring is still felt to reflect site conditions. The flow rates are recorded as "very low" with the maximum concentration of gas flow within capped landfilled areas at 1.2l/hr. Lateral migration of carbon dioxide external to the landfill boundaries is occurring in all directions and could be associated with fill or natural ground conditions, but methane migration is only consistently seen to the west. The results are summarised as "although elevated total concentrations of methane and carbon dioxide are being recorded the gas flow rates are sufficiently low that the movement of the gases from the wells/landfill into the surrounding atmosphere is not at a significant rate and that all internal monitoring wells comply with Condition C of the Completion Criteria requirements, and have done so since capping completion in May 2013."

N.B. Condition C refers to one of 3 criteria in the Gas Management Plan- it is stated that if any of these are reached that will be the point at which landfill gas monitoring can be ceased.

The report goes on to identify a risk assessment for specific external receptors which could be affected by gas migration. Section 4.1.3 of the annual report deals with risk to external receptors from gas, as this is included within the structured gas management plan. The only development-relevant one of these is the sewage pumping station, and the risk assessment notes that flow rates were at or below the limit of detection in the nearest boreholes (both to the pumping station and the harbour development), that well N79 was likely to be unaffected by landfill and was reflective of natural ground conditions, and that wells N11A and N13A were generally below the action level for CO2 but had occasional peaks. The report states that the building structure of the sewage plant was suitable to protect against this but that any carbon dioxide here was not thought to be related to the landfill.

Boreholes N69, N20 and N19 were then considered as these lie further north of N79 and closer to the main harbour development areas. Data from 2007-2016 was considered. Again, there was no recordable flow of gas in borehole N69 & N19. Borehole N20 shows some data anomalies (i.e. negative gas flow figures) and therefore is treated with caution.

Borehole N68A was also considered but the report contains no data at all from this borehole.

The landfill has passive gas venting stacks in each of the four phases of capping, and these are monitored on a 6 monthly basis. The most recent results of that monitoring are given in Appendix D of the most recent annual report. The report states "the passive gas vents installed within the cap appear to have been successful in preventing the build-up, and subsequent off-site lateral migration of potentially harmful internal landfill gas concentrations". There were also "negligible flow rates within internal gas vents". Gas monitoring continues at the site but there is no indication that landfill gases would likely impact the harbour development both from ACC monitoring or AHB's own on-site monitoring.

8.3 Groundwater monitoring (Section 5.0 of the Annual Report)

Section 5 of the annual report deals with the monitoring of groundwater and leachate from the landfill. A hydrogeological risk assessment undertaken in 2006/07 for the site set a number of trigger levels for contaminants within internal wells on the landfill. The results of the annual monitoring are considered in relation to the different Phased areas of landfill. For the harbour development this would therefore include boreholes N11A, N19B, N76 and N66(less relevant due to distance). Well N11A was consistently dry or contained very little groundwater. It was found that distal wells N66 and N76 had elevated metals (6 no), phosphorus and ammonium at times but that these did not match the profile of the landfill and could be from other external sources. The report further states that "the results recorded in all wells recorded down-hydraulic catchment of the waste mass confirm that groundwaters continue to be marginally impacted on by List II determinants within the leachate…but that there has no significant change in the concentrations over the last 12 months". List I contaminants noted in the distal downgradient wells relevant to the development were mecoprop, mercury and cadmium but these were "only marginally above the trigger levels".

The report concludes that "Waste materials internal to the Ness Area appear to be marginally impacting on the quality of the groundwater external to the landfill, however this impact is very minor". This report therefore confirms that the monitoring team for the ACC landfill are confident that the impact on receptors outside the site boundary is minimal. When taken with the knowledge on depth to groundwater around the bay, it confirms the risk from landfill-impacted groundwater on this development is likely to be negligible, based on ACC's own extensive 13 year monitoring programme.

9 GROUNDWATER EXAMINATION- CLIENT LED

As stated in section 7, there were 11 boreholes installed by Soil Engineering at the site in 2015. The geotechnical logs of the 11 installed boreholes were examined in detail to specifically look at the potential for made-ground to be in contact with groundwater. They had been installed with a 50mm uPVC pipe, and set in with a pea gravel and bentonite seal. Groundwater levels were measured weekly through the duration of site works from May to September 2015. The measured groundwater levels during development are shown in Section 1 of the 2015 Soil Engineering report, but typically varied widely during drilling and then settled post-installation. Groundwater inflow was recorded in 22 of the 63 investigation locations overall. This was noted to be minor to moderate by Soil Engineering, and occurred typically from 2.5-9.8m. Standing water levels were found to be consistent and ranged between 3-6m ACD. The table below (reproduced from Soil Engineering 2015v- Volume 1, p27) shows the highest and lowest water level readings in relation to mbgl (current) and mACD adjusted.

Table 8 – Summary of response zones for boreholes

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TABLE 8: SUMMARY OF GROUNDWATER DATA

Borehole No	Installation Range (mbgl)	Ground Level (mACD)	Monitoring Start Date (dd/mm/yyyy)	Monitoring End Date (dd/mm/yyyy)	Lowest Reading (mbgl)/ (mACD)	Highest Reading (mbgl)/ (mACD)	Response Zone Stratum
L2014-4	40.50 – 44.00	6.73	04/06/2015	28/09/2015	7.41 (-0.68)	2.58 (4.15)	Glacial Granular & Rock
L2014-5W	30.00 – 40.00	6.35	20/09/2015	28/09/2015	2.95 (3.40)	2.86 (3.49)	Glacial Granular
L2014-6	0.50 – 4.00	8.55	10/06/2015	28/09/2015	Dry (-)	Dry (-)	Made Ground & Marine Deposits
L2014-7W	17.00 – 70.00	9.18	20/09/2015	28/09/2015	5.44 (3.74)	5.32 (3.86)	Rock
L2014-8	0.50 – 5.00	9.48	10/06/2015	28/09/2015	Dry (-)	3.52 (5.96)	Made Ground
L2014-13	1.50 – 5.00	7.05	28/05/2015	28/09/2015	3.80 (3.25)	0.98 (6.07)	Made Ground & Marine Deposits
L2014-18	0.50 – 2.00	7.86	28/05/2015	28/09/2015	Dry (-)	Dry (-)	Marine Deposits
L2014-19A	31.50 – 41.50	6.56	06/07/2015	28/09/2015	4.01 (2.55)	2.50 (4.06)	Glacial Granular
L2014-20	28.20 - 43.10	6.68	18/07/2015	28/09/2015	3.56 (3.12)	2.78 (3.90)	Glacial Granular
L2014-24W	36.50 – 70.10	7.00	20/09/2015	28/09/2015	3.10 (3.90)	3.06 (3.94)	Rock
L2014-27	1.00 – 37.70	11.52	15/09/2015	28/09/2015	7.89 (3.63)	7.85 (3.67)	Glacial Till & Rock
L2014-28	1.00 – 31.45	15.91	17/08/2015	28/09/2015	12.28 (3.63)	0.50 (15.41)	Made Ground, Marine Deposits, Glacial Granular & Rock
L2014-29	1.00 – 10.70	21.10	08/08/2015	28/09/2015	5.35 (15.75)	3.83 (17.28)	Marine Deposits, Glacial Till
L2014-30	1.00 – 8.00		15/09/2015	28/09/2015	3.79	3.10	Marine Deposits

Note: Groundwater Level Readings – Values in brackets denotes values mACD (meters Above Chart Datum).

The site will be influenced by both groundwater and tidal water.

It was noted that only in 4 boreholes was made-ground in potential contact with groundwater. These were BH6/8/19A/20. BH8 was the borehole where the cap was too tall to allow access to the gas tap, and therefore this one was not sampled. BH6 was found to be dry at all times both in 2015 and 2016. BH19A and BH20 were further considered. These two boreholes are deep installations, around 40m depth. BH19A has a response zone from 31.5-41.5mbgl in natural ground and BH20 had a response zone from 28.2-43.1mbgl. The upper depths, in contact with the re-worked natural materials which comprised the made-ground, were screened off however by solid standpipe, and the slotted section in contact with groundwater was around 35-40m depth. This was for pump testing rather than environmental use. Groundwater samples were taken from these two boreholes and submitted for laboratory screening. The lab report can be seen in Appendix B (SAL597230). Analysis was undertaken for metals, speciated PAH's and TPH compounds. The concentrations were compared to the WAT-PS-10-01 RPV or ES values, were relevant or available. In most cases there was no detectable concentration of chemical present, or it was at very low levels. There was a minor exceedance of selenium in BH19A (16ug/l) but this is from the 31.5-41.5mbgl zone and is likely to therefore be naturally derived rather than anthropogenic.

Risk to the water environment is assessed using the principles of Position Statement WAT-PS-10-01 released by SEPA in 2011. Risk is assessed against the guidance specific to the receptor being assessed. Therefore the receptor at risk is first determined, and then the appropriate risk assessment criteria selected. In this case the site is extra- urban. There are two receptors here: the surface water of Nigg Bay, and the groundwater as a resource. No groundwater abstraction takes place here and the site is inter-tidal so groundwater cannot be considered a direct resource here, but as an indirect connection pathway to the marine waters. Groundwater requires protection as a resource for future abstraction as well as for the indirect impacts which can occur to surface waters, coastal waters, or water-based ecosystems such as wetlands.

The approach therefore requires the investigation of the relationship between specific receptors, their relationship with each separate source, and consideration of the relevant standards for assessment of impact. This can involve the consideration of upstream and off site sources, as well as the impact of attenuation downstream of the source. For this site however upstream sources have been assessed via the Ness Tip landfill monitoring data.

The position statement published by SEPA (WAT-PS-10-01)
includes Resource Protection Values (RPVs) for hazardous and non-hazardous substances. Supporting guidance WAT-SG-53 – "Environmental Standards for Discharges to Surface waters" also informs the risk assessment with the provision of Environmental Quality Standards for consideration. Where substances are defined as hazardous List I substances the MRV (Minimum Reporting Value) has been used where this is available, or using the Resource Protection Values (RPV) included in WAT-PS-10-01. The intended use of the limit should be considered also.

Whilst the works undertaken did not include a programme of groundwater monitoring, this was based on a number of factors:

- The inert nature of the ground, with the majority of made-ground being either in the Shore landfill (and therefore not being disturbed) or being natural re-worked materials, or inert construction debris of concrete and brick in the main.
- The confirmation that the Ness Tip landfill is unlikely to be having a significant impact on groundwater entering the site.

- The comparison of geotechnical logs to groundwater observed confirms that there are limited locations where groundwater contact with made-ground was observed, and in these locations the water table remains 2-3m below the surface at the highest points, and therefore not in contact with the majority of the made-ground.
- The low leachability factor of the materials found by their nature.
- There are no recorded observations of tidal wash in the 2015 trial pits but it was noted in the trial pit logs from 2013 that TP 11 AND 13 both have the tide washing the fill at 1.6mACD and 1.86mACD respectively, in all other cases it was groundwater seen in the sand and gravel.
- Examination of the groundwater level took place over 4 months in 2015 for all boreholes installed (see Soil Engineering 2015 report, Volume 2, Section A for 15 pages of groundwater records) and confirmed limited locations and times when groundwater was in contact with anything other than natural materials.
- The consideration that tidal influence will likely have a much greater influence on the existing site materials than groundwater. The tidal range for Aberdeen is 0.00m ACD to 5.39m ACD and therefore it can be assumed that tidal wash will occur in large parts of the development area, which is designed to be within the inter-tidal zone. The existing Shore landfill is currently exposed to tidal action and this development will not lead to any greater exposure of this ground. The tidal action on the shore where the Quay structures will be located will be significantly reduced by the revetment structures. The Deep water harbour which will be created has specifically been designed to significantly reduce wave action on the shoreline and therefore the construction will ameliorate any current negligible impact that the wave action has on the inert fill confirmed in some locations.

Specifically for this site the contaminant sources both off and on-site are historic and are therefore defined as passive inputs, which are direct in nature – being in contact with groundwater on a tidal and seasonal basis with changing water table levels likely.

It is considered unlikely that future exploitation of the groundwater resource within this environment will take place however, and the impact on this major mixing zone from such a small source should be minimal. In the bay, the mixing zone is very great in relation to the volume of any minimal discharge, and there is no evidence of leachable materials on site likely to cause discharge (other than the soil lead identified for remedial action).

10 CSM RISK ASSESSMENT

No specific conceptual site model was developed prior to these site investigations as there were no specific concerns identified at that time. However, the most common contaminants are always possible to find in any developed environment and at the beginning of the works all potential pathways were considered possible.

10.1 Sources

Potential sources at any uncharacterised site could be metals, hydrocarbons (TPH, BTEX & PAH), asbestos, tributyl tin, and less common contaminants such as phenol, cyanide, PCB's. In addition ground gases were hypothesised as a potential risk from buried made-ground; or migratory from Ness Tip or the Shore Bay landfill. Only one chemical contaminant was found to be present at the site at a concentration of potential concern. This was lead in shallow surface soils (TP05 at 0.5mbgl) and no other source of contamination has been confirmed (see Section 5.1). In the surrounding soils lead was less than half the acceptable limit so this seems to be a localised hotspot.

10.2 Pathways

Given the objectives of the site assessment, pathways that impacted upon human and ecological receptors (e.g. groundwater) are considered. Therefore, the main pathways confirmed were:

- Migration of contaminants within the soil at the site to sensitive site receptors via inhalation of dust
- Migration of contaminants within the soil at the site to sensitive site receptors via inhalation of vapour
- Migration of contaminants within the soil at the site to sensitive site receptors via ingestion of soil
- Migration of contaminants within the soil at the site to sensitive site receptors via dermal contact with soil;
- Direct contact with buildings; and
- Migration of contaminants to groundwater and potentially onwards to sea water.

Groundwater was noted in the majority of examined locations but this is in part because boreholes were deep in most cases. Only in 4 locations was groundwater potentially in contact with made-ground.

10.3 Receptors

For the site assessment, the receptors confirmed are:

- sensitive site receptors (human visitors and site workers);
- water bodies (groundwater, seawater)
- Future buildings

Only one pollutant linkage can be confirmed

- lead in soils exposed to human receptors by dermal contact/ingestion of soil or soil dust

Measures to manage this risk are described in Section 11.

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11 DISCUSSION

A Phase 2 intrusive site investigation was carried out at Nigg Bay, Aberdeen, in order to determine any potential impact to the planned development of a new harbour facility.

Assessment was undertaken to current British Standards and in compliance with all relevant UK and EU legislation affecting the assessment of potentially contaminated land. Significant ground examination took place in 2013-2016 to characterise the nature of the ground. The results of the soil analyses carried out are summarised below when lab results were compared to risk assessment guidance limits for impact on human health for a commercial end use of the site:

Soil investigation – summary of data

Soil metals -single exceedance of lead in L2014-TP05 at 0.5mbgl

- Soil TPH - no exceedances
- Soil BTEX – no exceedances
- Soil PAH –no exceedances
- Soil cyanide – no exceedances
- Soil asbestos- none present
- Soil phenol- no exceedances
- Ground gas - very low risk
- Dredged materials – suitable for reclamation on land based on chemistry or disposal at sea

Analysis was undertaken of a total of 225 samples recovered from over-water boreholes, 31 soil samples from on-land trial pits, plus gas monitoring undertaken at 13 boreholes on 6 occasions under a range of conditions. Data from the nearby Ness Tip landfill was also examined for relevance to this site.

It was noted that of the extensive data sets analysed there was only a single sample where an elevated lead concentration could potentially cause an impact to human health. This was at TP05, which lies under the former road into the landfill tip at the base of the SSSI site. It lies approximately 20m south of the land-based West quay for the new development. Beach re-profiling here will attenuate wave action. The material in this area will therefore be excavated to 3.2mbgl and used as infill elsewhere in the development. The exact location for re-use cannot be confirmed at this time; however this material will be buried and covered with a capping layer which will prevent dust arising from it, and during excavation and removal of this material dust-suppression measures will be used at all times until the capping is complete. This will therefore break the potential pathway for direct exposure to humans by dermal contact or dust ingestion. The lab tested samples were was from 0.5mbgl and 3.5mbgl and it is acknowledged that the ground between 0.5 and 3.5mbgl is therefore not characterised in terms of lead content. The excavation log does not reveal any reason to suspect there would be greater lead at depth and the source of this lead is unclear when compared to the ground composition. It is possible this is derived from construction wastes from a site where lead roofing was used, for example. ESL has previously observed ground where lead roofing

had been stacked on construction waste and this had led to leaching from rainwater on the ground below. The exact area impacted will be confirmed by validation sampling after excavation to ensure no elevated lead soils remain exposed.

Should any ground be found during construction works which is unsuitable for re-use on site then this would be removed from site with suitable landfill disposal paperwork. No landfill characterisation has been carried out on the site as yet because no material was uncovered in any of the locations to be actively worked upon which appeared obviously unsuitable for retention on site.

A dust control plan is included as a mandatory part of the work schedule in this area, in order to control impact on construction staff.

The ground gas assessment took place over the summer months but did experience a wide range of atmospheric pressures. In all locations there was no recordable flow present for any gas measured. There was also no methane present at any time in any location. There were low concentrations of carbon dioxide in some areas but these were all confirmed as being natural ground and this is likely therefore to be from organic matter in the area. Interestingly low atmospheric pressure did not correspond to peak gas readings, and the one borehole where man-made fill was present had negligible gas readings, whereas other boreholes with natural materials throughout were generating some gas. No borehole had any recordable flow rate and all were recorded as being below the limit of detection for flow rate. Of the 13 boreholes monitored all were classified as “very low risk” and required no further action. BH18 is actually on the site boundary and is under the planned new route for Greyhope Road, which will be diverted during construction. BH 27/28/29 are all in an area to the SW of the site boundary where there will actually be no works taking place. These are alongside the public footpath and no disturbance is planned in this area. There will also be no enclosed spaces or functional change of use in this area. BH13 and BH19 are located under the West Quay. This will have a long service trench running North- South along its length, but terminating at the quay ends. This is to contain a variety of services and personnel access is required. This service trench will be subject to the mandatory operating procedures set down by Aberdeen Harbour for working in confined spaces. This requires the area to be vented before entry and states all personnel entering will be wearing breathing apparatus to prevent impact by gases. This will act as a protective measure against ground gas also and therefore this risk can be considered as remediated by that process. The Ness Tip landfill boreholes nearest the site also did not indicate a risk of migratory gas from the site, and an intensive programme of gas monitoring and gas venting is in place to monitor this closed landfill. The gas production has already stabilised and met the closure requirements.

Very limited groundwater monitoring was undertaken on site and the reason for this is discussed within Section 9. An intensive programme of groundwater monitoring both on the closed Ness landfill and on distal off-site boreholes have confirmed only marginal impacts on groundwater outside the landfill. Groundwater on site is only in contact with made-ground in limited locations. Groundwater observations were recorded weekly for 3 months in 2015 to confirm this. The far greater influence on this development would be tidal action. This is currently an issue within the Shore landfill and some works will take place to minimise this by re-profiling the beach to create a stable dredged basin, and therefore minimise this impact. However much of the Shore landfill will not be touched by this development. The remainder of the bay will have tidal action significantly reduced through the design of the revetments within the Quay structures. Therefore any future impact will be significantly reduced after this harbour is constructed.

It should be stressed that the ground throughout the development areas of this site was largely found to be inert, or natural/re-worked natural materials. No risks were highlighted, other than the single elevated lead in one location, and the planned works will only suffice to further minimise any environmental impact this site may have.

No further site investigation works are recommended here and no additional remedial actions are recommended other than those detailed to deal with the lead.

12 CONCLUSIONS AND RECOMMENDATIONS

Risk assessment of Phase 2 investigation data was carried out by EnviroSurveying Ltd on data collected by Soil Engineering in 2015, and by Aberdeen Harbour in 2016, in relation to a planned development of a new deep water harbour facility in Nigg Bay, Aberdeen.

There was no contamination found in any of the 2016 dredge samples tested and these were found to therefore be suitable for re-use on land from an environmental point of view. From the samples tested from on-land only one was found to have elevated lead that could pose a risk to human health.

ACTION: The soils from around TP-05 with elevated lead will be buried as fill material, with surface capping to prevent contact or dust arising, and mandatory dust control measures during construction until this material is moved and capped. Validation sampling will be detailed which will confirm that no material with elevated lead remains near the surface where exposure is possible after excavation works take place.

Gas monitoring indicated no methane, no recordable gas flow, and low or negligible concentrations of carbon dioxide. This indicated a “very low risk” at all locations monitored, requiring no protective measures;. This was further confirmed by reference to the annual records from the Ness Tip landfill which indicate no unacceptable migratory gas risk from the landfill to this area.

ACTION: mandatory Aberdeen Harbour process for working in enclosed below ground spaces to include west quay service trench to prevent any hypothetical risk from gas asphyxiation.

All of these soil samples were selected to best represent site conditions.

Limited remedial works are therefore recommended for this site based on the information gained from this investigation and the proposed use.

13 REFERENCES

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14 DISCLAIMER

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To the best of our knowledge, information contained in this report is accurate at the date of issue; however subsurface conditions including contamination concentrations may vary spatially and with time. It should be noted, however, that this report is based on information obtained from the site investigation works. There may be conditions pertaining at the site not disclosed by these investigations, which might have a bearing on the recommendations provided if such conditions were known.

It is important that these implications be clearly recognized when the findings of this study are being interpreted

APPENDICES

APPENDIX A – location plan showing trial pit and borehole locations

APPENDIX B – lab reports (SAL488274, 490426, 491352, 492021, 500238, 517853, 579230)

APPENDIX B

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Scientific Analysis Laboratories Ltd

Certificate of Analysis

Scientific Analysis Laboratories is a limited company registered in England and Wales (No 2514788) whose address is at Hadfield House, Hadfield Street, Manchester M16 9FE

Report Number: 488274-1

Date of Report: 10-Jul-2015

Customer: Soil Engineering Geoservices Limited
Parkside Lane
Dewsbury Road
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LS11 5SX

Customer Contact: Mr Jonathan Norton

Customer Job Reference: TC7606
Customer Site Reference: Bay of Nigg
Date Job Received at SAL: 18-Jun-2015
Date Analysis Started: 25-Jun-2015
Date Analysis Completed: 06-Jul-2015

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
This report should not be reproduced except in full without the written approval of the laboratory
Tests covered by this certificate were conducted in accordance with SAL SOPs
All results have been reviewed in accordance with Section 25 of the SAL Quality Manual

UKAS TESTING 1549

Report checked and authorised by :
Natasha Wild
Project Manager

Issued by :
Natasha Wild
Project Manager

SAL Reference: 488274
Project Site: Bay of Nigg
Customer Reference: TC7606

Soil Analysed as Soil
MCERTS Preparation

SAL Reference					**488274 001**	**488274 003**	**488274 006**	**488274 008**	**488274 010**	**488274 012**	**488274 014**	**488274 017**	**488274 020**	**488274 025**
Customer Sample Reference					**L2014-TP01 ES 001**	**L2014-TP01 ES 007**	**L2014-TP03 ES 001**	**L2014-TP03 ES 007**	**L2014-TP03 ES 013**	**L2014-TP04 ES 004**	**L2014-TP04 ES 008**	**L2014-TP05 ES 004**	**L2014-TP05 ES 011**	**L2014-TP08 ES 004**
Bottom Depth					**0.15**	**2.25**	**0.30**	**2.50**	**3.80**	**0.50**	**2.00**	**0.50**	**3.00**	**0.50**
Date Sampled					**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**
Type					**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Moisture @ 105 C	T162	AR	0.1	%	**5.1**	**12**	**10**	**9.2**	**8.9**	**5.9**	**5.4**	**27**	**10**	**2.1**
Retained on 10mm sieve	T2	M40	0.1	%	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

SAL Reference: 488274
Project Site: Bay of Nigg
Customer Reference: TC7606

Soil Analysed as Soil
MCERTS Preparation

SAL Reference					**488274 028**	**488274 032**	**488274 037**	**488274 041**	**488274 044**	**488274 047**	**488274 052**	**488274 055**	**488274 058**	**488274 061**
Customer Sample Reference					**L2014-TP08 ES 011**	**L2014-TP09 ES 005**	**L2014-TP10 ES 004**	**L2014-TP10 ES 014**	**L2014-TP11 ES 004**	**L2014-TP11 ES 011**	**L2014-TP12 ES 005**	**L2014-TP13 ES 004**	**L2014-TP13 ES 011**	**L2014-TP14 ES 004**
Bottom Depth					**3.00**	**1.00**	**0.50**	**4.00**	**0.50**	**3.00**	**1.00**	**0.50**	**3.00**	**0.50**
Date Sampled					**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**18-JUN-2015**	**18-JUN-2015**	**18-JUN-2015**	**18-JUN-2015**
Type					**Sandy Soil**	**Clay**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Moisture @ 105 C	T162	AR	0.1	%	**2.4**	**21**	**0.7**	**14**	**2.2**	**6.1**	**1.6**	**2.7**	**5.2**	**2.6**
Retained on 10mm sieve	T2	M40	0.1	%	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

SAL Reference: 488274
Project Site: Bay of Nigg
Customer Reference: TC7606

Soil Analysed as Soil
Suite E

SAL Reference					**488274 001**	**488274 003**	**488274 006**	**488274 008**	**488274 010**	**488274 012**	**488274 014**	**488274 017**	**488274 020**	**488274 025**
Customer Sample Reference					**L2014-TP01 ES 001**	**L2014-TP01 ES 007**	**L2014-TP03 ES 001**	**L2014-TP03 ES 007**	**L2014-TP03 ES 013**	**L2014-TP04 ES 004**	**L2014-TP04 ES 008**	**L2014-TP05 ES 004**	**L2014-TP05 ES 011**	**L2014-TP08 ES 004**
Bottom Depth					**0.15**	**2.25**	**0.30**	**2.50**	**3.80**	**0.50**	**2.00**	**0.50**	**3.00**	**0.50**
Date Sampled					**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**
Type					**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Asbestos ID	T27	AR			N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Arsenic	T6	M40	2	mg/kg	**6**	**7**	**14**	**9**	**9**	**5**	**6**	**13**	**12**	**4**
Boron (water-soluble)	T6	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium	T6	M40	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	**1**	<1	<1
Chromium	T6	M40	1	mg/kg	**36**	**26**	**21**	**23**	**19**	**21**	**29**	**68**	**39**	**23**
Chromium VI	T6	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Copper	T6	M40	1	mg/kg	**38**	**81**	**67**	**44**	**52**	**49**	**61**	**280**	**300**	**46**
Lead	T6	M40	1	mg/kg	**48**	**120**	**1800**	**580**	**870**	**230**	**260**	**7100**	**1400**	**590**
Mercury	T6	M40	1	mg/kg	<1	**5**	<1	<1	<1	<1	<1	<1	<1	<1
Nickel	T6	M40	1	mg/kg	**21**	**18**	**23**	**18**	**16**	**17**	**19**	**23**	**21**	**14**
Zinc	T6	M40	1	mg/kg	**80**	**100**	**650**	**420**	**420**	**140**	**170**	**2100**	**600**	**260**
pH	T7	AR			**9.8**	**8.8**	**8.7**	**8.1**	**6.4**	**7.6**	**8.1**	**7.7**	**7.9**	**8.8**
Phenols(Mono)	T546	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Selenium	T6	M40	3	mg/kg	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Soil Organic Matter	T287	M40	0.1	%	**1.5**	**2.8**	**4.4**	**5.6**	**3.4**	**3.5**	**4.1**	**5.1**	**3.2**	**1.0**
(Water Soluble) SO4(2:1) expressed as SO4	T242	AR	10	mg/l	**11**	<10	**15**	**410**	**230**	<10	<10	**69**	**57**	<10
Cyanide(Total)	T4	AR	1	mg/kg	<1	<1	**1**	<1	<1	<1	<1	**1**	<1	<1

SAL Reference: 488274
Project Site: Bay of Nigg
Customer Reference: TC7606

Soil Analysed as Soil
Suite E

SAL Reference					**488274 028**	**488274 032**	**488274 037**	**488274 041**	**488274 044**	**488274 047**	**488274 052**	**488274 055**	**488274 058**	**488274 061**
Customer Sample Reference					**L2014-TP08 ES 011**	**L2014-TP09 ES 005**	**L2014-TP10 ES 004**	**L2014-TP10 ES 014**	**L2014-TP11 ES 004**	**L2014-TP11 ES 011**	**L2014-TP12 ES 005**	**L2014-TP13 ES 004**	**L2014-TP13 ES 011**	**L2014-TP14 ES 004**
Bottom Depth					**3.00**	**1.00**	**0.50**	**4.00**	**0.50**	**3.00**	**1.00**	**0.50**	**3.00**	**0.50**
Date Sampled					**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**18-JUN-2015**	**18-JUN-2015**	**18-JUN-2015**	**18-JUN-2015**
Type					**Sandy Soil**	**Clay**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Asbestos ID	T27	AR			N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Arsenic	T6	M40	2	mg/kg	**4**	**8**	**3**	**5**	**9**	**7**	**4**	**6**	**7**	**6**
Boron (water-soluble)	T6	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	**14**	<1	<1
Cadmium	T6	M40	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium	T6	M40	1	mg/kg	**17**	**41**	**18**	**19**	**23**	**30**	**19**	**24**	**26**	**12**
Chromium VI	T6	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Copper	T6	M40	1	mg/kg	**14**	**31**	**7**	**12**	**21**	**25**	**16**	**51**	**33**	**15**
Lead	T6	M40	1	mg/kg	**24**	**54**	**12**	**29**	**33**	**22**	**16**	**83**	**69**	**11**
Mercury	T6	M40	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Nickel	T6	M40	1	mg/kg	**11**	**35**	**12**	**14**	**17**	**22**	**11**	**20**	**23**	**8**
Zinc	T6	M40	1	mg/kg	**59**	**85**	**66**	**61**	**69**	**68**	**38**	**65**	**73**	**27**
pH	T7	AR			**8.7**	**8.4**	**8.3**	**8.5**	**8.2**	**8.0**	**8.6**	**9.1**	**8.3**	**7.9**
Phenols(Mono)	T546	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Selenium	T6	M40	3	mg/kg	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Soil Organic Matter	T287	M40	0.1	%	**0.6**	**1.1**	**1.9**	**0.4**	**1.1**	**0.6**	**0.7**	**0.8**	**1.8**	<0.1
(Water Soluble) SO4(2:1) expressed as SO4	T242	AR	10	mg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Cyanide(Total)	T4	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

SAL Reference: 488274
Project Site: Bay of Nigg
Customer Reference: TC7606

Soil Analysed as Soil
Miscellaneous

SAL Reference					**488274 001**	**488274 003**	**488274 006**	**488274 008**	**488274 010**	**488274 012**	**488274 014**	**488274 017**	**488274 020**	**488274 025**
Customer Sample Reference					**L2014-TP01 ES 001**	**L2014-TP01 ES 007**	**L2014-TP03 ES 001**	**L2014-TP03 ES 007**	**L2014-TP03 ES 013**	**L2014-TP04 ES 004**	**L2014-TP04 ES 008**	**L2014-TP05 ES 004**	**L2014-TP05 ES 011**	**L2014-TP08 ES 004**
Bottom Depth					**0.15**	**2.25**	**0.30**	**2.50**	**3.80**	**0.50**	**2.00**	**0.50**	**3.00**	**0.50**
Date Sampled					**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**
Type					**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Sulphide	T4	AR	10	mg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Sulphur (total)	T6	AR	0.01	%	**0.02**	**0.02**	**0.11**	**0.18**	**0.08**	**0.04**	**0.05**	**0.10**	**0.64**	**0.04**

SAL Reference: 488274
Project Site: Bay of Nigg
Customer Reference: TC7606

Soil Analysed as Soil
Miscellaneous

SAL Reference					**488274 028**	**488274 032**	**488274 037**	**488274 041**	**488274 044**	**488274 047**	**488274 052**	**488274 055**	**488274 058**	**488274 061**
Customer Sample Reference					**L2014-TP08 ES 011**	**L2014-TP09 ES 005**	**L2014-TP10 ES 004**	**L2014-TP10 ES 014**	**L2014-TP11 ES 004**	**L2014-TP11 ES 011**	**L2014-TP12 ES 005**	**L2014-TP13 ES 004**	**L2014-TP13 ES 011**	**L2014-TP14 ES 004**
Bottom Depth					**3.00**	**1.00**	**0.50**	**4.00**	**0.50**	**3.00**	**1.00**	**0.50**	**3.00**	**0.50**
Date Sampled					**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**18-JUN-2015**	**18-JUN-2015**	**18-JUN-2015**	**18-JUN-2015**
Type					**Sandy Soil**	**Clay**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Sulphide	T4	AR	10	mg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Sulphur (total)	T6	AR	0.01	%	**0.03**	**0.01**	**0.03**	**0.03**	**0.02**	**0.02**	**0.02**	<0.01	**0.02**	**0.01**

SAL Reference: 488274
Project Site: Bay of Nigg
Customer Reference: TC7606

Soil Analysed as Soil
TPH UKCWG

SAL Reference					**488274 001**	**488274 003**	**488274 006**	**488274 008**	**488274 010**	**488274 012**	**488274 014**	**488274 017**	**488274 020**	**488274 025**
Customer Sample Reference					**L2014-TP01 ES 001**	**L2014-TP01 ES 007**	**L2014-TP03 ES 001**	**L2014-TP03 ES 007**	**L2014-TP03 ES 013**	**L2014-TP04 ES 004**	**L2014-TP04 ES 008**	**L2014-TP05 ES 004**	**L2014-TP05 ES 011**	**L2014-TP08 ES 004**
Bottom Depth					**0.15**	**2.25**	**0.30**	**2.50**	**3.80**	**0.50**	**2.00**	**0.50**	**3.00**	**0.50**
Date Sampled					**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**
Type					**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Benzene	T209	M105	10	µg/kg	(110,13) <20	(13,110) <20	(100,13) <20	(13,100) <20	(13,110) <20	(13) <10	(13,100) <20	(13,100) <20	(13) <10	(13) <10
Toluene	T209	M105	10	µg/kg	(110) <20	(110) <20	(100) <20	(100) <20	(110) <20	<10	(100) <20	(100) <20	<10	<10
EthylBenzene	T209	M105	10	µg/kg	(110) <20	(110) <20	(100) <20	(100) <20	(110) <20	<10	(100) <20	(100) <20	<10	<10
Methyl tert-Butyl Ether	T209	M105	10	µg/kg	(110) <20	(110) <20	(100) <20	(100) <20	(110) <20	<10	(100) <20	(100) <20	<10	<10
O Xylene	T209	M105	10	µg/kg	(110) <20	(110) <20	(100) <20	(100) <20	(110) <20	<10	(100) <20	(100) <20	<10	<10
M/P Xylene	T209	M105	10	µg/kg	(110) <20	(110) <20	(100) <20	(100) <20	(110) <20	<10	(100) <20	(100) <20	<10	<10
TPH (C5-C6 aliphatic)	T209	M105	0.100	mg/kg	(110) <0.200	(110) <0.200	(100) <0.200	(100) <0.200	(110) <0.200	<0.100	(100) <0.200	(100) <0.200	<0.100	<0.100
TPH (C6-C8 aliphatic)	T209	M105	0.10	mg/kg	(110) <0.20	(110) <0.20	(100) <0.20	(100) <0.20	(110) <0.20	<0.10	(100) <0.20	(100) <0.20	<0.10	<0.10
TPH (C8-C10 aliphatic)	T209	M105	0.10	mg/kg	(110) <0.20	(110) <0.20	(100) <0.20	(100) <0.20	(110) <0.20	<0.10	(100) <0.20	(100) <0.20	<0.10	<0.10
TPH (C10-C12 aliphatic)	T206	M105	1	mg/kg	(9) <10	(9) <10	(9) <10	(9) <10	(9) <10	(9) <10	(9) <10	(9) <10	(9) <10	(9) <10
TPH (C12-C16 aliphatic)	T206	M105	2	mg/kg	(9) <10	(9) <10	(9) <10	(9) <10	(9) <10	(9) <10	(9) <10	(9) <10	(9) <10	(9) <10
TPH (C16-C21 aliphatic)	T206	M105	1	mg/kg	**20**	(9) <10	(9) <10	(9) <10	(9) <10	**23**	**19**	(9) <10	(9) <10	(9) <10
TPH (C21-C35 aliphatic)	T206	M105	4	mg/kg	**210**	(9) <10	(9) <10	(9) <10	(9) <10	**260**	**220**	(9) <10	(9) <10	(9) <10
TPH (C35-C44 aliphatic)	T8	M105	1	mg/kg	**63**	(9) <10	(9) <10	(9) <10	(9) <10	**110**	**110**	(9) <10	(9) <10	(9) <10
TPH (Aliphatic) total	T85	M105		mg/kg	**290**	N.D.	N.D.	N.D.	N.D.	**390**	**350**	N.D.	N.D.	N.D.
TPH (C6-C7 aromatic)	T209	M105	0.10	mg/kg	(110) <0.20	(110) <0.20	(100) <0.20	(100) <0.20	(110) <0.20	<0.10	(100) <0.20	(100) <0.20	<0.10	<0.10
TPH (C7-C8 aromatic)	T209	M105	0.10	mg/kg	(110) <0.20	(110) <0.20	(100) <0.20	(100) <0.20	(110) <0.20	<0.10	(100) <0.20	(100) <0.20	<0.10	<0.10
TPH (C8-C10 aromatic)	T209	M105	0.10	mg/kg	(110) <0.20	(110) <0.20	(100) <0.20	(100) <0.20	(110) <0.20	<0.10	(100) <0.20	(100) <0.20	<0.10	<0.10
TPH (C10-C12 aromatic)	T206	M105	1	mg/kg	(9) <10	(9) <10	(9) <10	(9) <10	(9) <10	(9) <10	(9) <10	(9) <10	(9) <10	(9) <10
TPH (C12-C16 aromatic)	T206	M105	1	mg/kg	(9) <10	(9) <10	(9) <10	(9) <10	(9) <10	(9) <10	(9) <10	(9) <10	(9) <10	(9) <10
TPH (C16-C21 aromatic)	T206	M105	1	mg/kg	**22**	(9) <10	(9) <10	**47**	(9) <10	**26**	**16**	(9) <10	(9) <10	(9) <10
TPH (C21-C35 aromatic)	T206	M105	1	mg/kg	**360**	(9) <10	(9) <10	**440**	(9) <10	**410**	**320**	**280**	(9) <10	(9) <10
TPH (C35-C44 aromatic)	T8	M105	1	mg/kg	**150**	(9) <10	(9) <10	**170**	(9) <10	**220**	**200**	**260**	(9) <10	(9) <10
TPH (Aromatic) total	T85	M105		mg/kg	**530**	N.D.	N.D.	**660**	N.D.	**660**	**540**	**540**	N.D.	N.D.
TPH (Aliphatic+Aromatic) (sum)	T85	M105		mg/kg	**830**	N.D.	N.D.	**660**	N.D.	**1000**	**880**	**540**	N.D.	N.D.

SAL Reference: 488274
Project Site: Bay of Nigg
Customer Reference: TC7606

Soil Analysed as Soil
TPH UKCWG

SAL Reference					**488274 028**	**488274 032**	**488274 037**	**488274 041**	**488274 044**	**488274 047**	**488274 052**	**488274 055**	**488274 058**	**488274 061**
Customer Sample Reference					**L2014-TP08 ES 011**	**L2014-TP09 ES 005**	**L2014-TP10 ES 004**	**L2014-TP10 ES 014**	**L2014-TP11 ES 004**	**L2014-TP11 ES 011**	**L2014-TP12 ES 005**	**L2014-TP13 ES 004**	**L2014-TP13 ES 011**	**L2014-TP14 ES 004**
Bottom Depth					**3.00**	**1.00**	**0.50**	**4.00**	**0.50**	**3.00**	**1.00**	**0.50**	**3.00**	**0.50**
Date Sampled					**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**18-JUN-2015**	**18-JUN-2015**	**18-JUN-2015**	**18-JUN-2015**
Type					**Sandy Soil**	**Clay**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Benzene	T209	M105	10	µg/kg	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10
Toluene	T209	M105	10	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
EthylBenzene	T209	M105	10	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Methyl tert-Butyl Ether	T209	M105	10	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
O Xylene	T209	M105	10	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
M/P Xylene	T209	M105	10	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
TPH (C5-C6 aliphatic)	T209	M105	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C6-C8 aliphatic)	T209	M105	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TPH (C8-C10 aliphatic)	T209	M105	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TPH (C10-C12 aliphatic)	T206	M105	1	mg/kg	(9) <10	<1	<1	(9) <10	<1	<1	(9) <10	<1	<1	(9) <10
TPH (C12-C16 aliphatic)	T206	M105	2	mg/kg	(9) <10	<2	<2	(9) <10	<2	<2	(9) <10	<2	<2	(9) <10
TPH (C16-C21 aliphatic)	T206	M105	1	mg/kg	(9) <10	<1	<1	(9) <10	<1	<1	(9) <10	<1	<1	(9) <10
TPH (C21-C35 aliphatic)	T206	M105	4	mg/kg	(9) <10	<4	<4	(9) <10	<4	<4	(9) <10	<4	<4	(9) <10
TPH (C35-C44 aliphatic)	T8	M105	1	mg/kg	(9) <10	<1	<1	(9) <10	<1	<1	(9) <10	<1	<1	(9) <10
TPH (Aliphatic) total	T85	M105		mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
TPH (C6-C7 aromatic)	T209	M105	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TPH (C7-C8 aromatic)	T209	M105	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TPH (C8-C10 aromatic)	T209	M105	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TPH (C10-C12 aromatic)	T206	M105	1	mg/kg	(9) <10	<1	<1	(9) <10	<1	<1	(9) <10	<1	<1	(9) <10
TPH (C12-C16 aromatic)	T206	M105	1	mg/kg	(9) <10	<1	<1	(9) <10	<1	<1	(9) <10	<1	<1	(9) <10
TPH (C16-C21 aromatic)	T206	M105	1	mg/kg	(9) <10	<1	<1	(9) <10	<1	<1	(9) <10	<1	<1	(9) <10
TPH (C21-C35 aromatic)	T206	M105	1	mg/kg	(9) <10	<1	<1	(9) <10	<1	<1	(9) <10	<1	<1	(9) <10
TPH (C35-C44 aromatic)	T8	M105	1	mg/kg	(9) <10	<1	<1	(9) <10	<1	<1	(9) <10	<1	<1	(9) <10
TPH (Aromatic) total	T85	M105		mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
TPH (Aliphatic+Aromatic) (sum)	T85	M105		mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

SAL Reference: 488274
Project Site: Bay of Nigg
Customer Reference: TC7606

Soil Analysed as Soil
PAH US EPA 16 (B and K split)

				SAL Reference	**488274 001**	**488274 003**	**488274 006**	**488274 008**	**488274 010**	**488274 012**	**488274 014**	**488274 017**	**488274 020**	**488274 025**
				Customer Sample Reference	**L2014-TP01 ES 001**	**L2014-TP01 ES 007**	**L2014-TP03 ES 001**	**L2014-TP03 ES 007**	**L2014-TP03 ES 013**	**L2014-TP04 ES 004**	**L2014-TP04 ES 008**	**L2014-TP05 ES 004**	**L2014-TP05 ES 011**	**L2014-TP08 ES 004**
				Bottom Depth	**0.15**	**2.25**	**0.30**	**2.50**	**3.80**	**0.50**	**2.00**	**0.50**	**3.00**	**0.50**
				Date Sampled	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**
				Type	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Naphthalene	T207	AR	0.1	mg/kg	<0.1	**0.2**	<0.1	<0.1	<0.1	**1.2**	**3.1**	<0.1	**0.4**	<0.1
Acenaphthylene	T207	AR	0.1	mg/kg	<0.1	**0.1**	**0.1**	<0.1	<0.1	**0.4**	**0.4**	<0.1	<0.1	<0.1
Acenaphthene	T207	AR	0.1	mg/kg	<0.1	**0.3**	<0.1	<0.1	<0.1	**1.0**	**1.0**	<0.1	**0.3**	<0.1
Fluorene	T207	AR	0.1	mg/kg	<0.1	**0.3**	<0.1	<0.1	<0.1	**1.1**	**1.2**	<0.1	**0.3**	<0.1
Phenanthrene	T207	AR	0.1	mg/kg	**0.3**	**2.5**	**1.0**	**0.4**	**0.7**	**8.4**	**8.6**	**0.3**	**2.1**	**0.1**
Anthracene	T207	AR	0.1	mg/kg	<0.1	**0.7**	**0.2**	<0.1	**0.1**	**2.5**	**2.5**	<0.1	**0.5**	<0.1
Fluoranthene	T207	AR	0.1	mg/kg	**0.6**	**3.6**	**2.1**	**0.8**	**1.1**	**9.7**	**9.5**	**0.6**	**2.3**	**0.3**
Pyrene	T207	AR	0.1	mg/kg	**0.7**	**3.4**	**2.0**	**0.8**	**1.0**	**9.8**	**9.3**	**0.6**	**2.3**	**0.2**
Benzo(a)Anthracene	T207	AR	0.1	mg/kg	**0.3**	**1.5**	**0.9**	**0.4**	**0.5**	**4.5**	**4.1**	**0.3**	**1.1**	**0.2**
Chrysene	T207	AR	0.1	mg/kg	**0.3**	**1.3**	**1.1**	**0.3**	**0.4**	**3.2**	**3.2**	**0.2**	**0.8**	<0.1
Benzo(b)fluoranthene	T207	AR	0.1	mg/kg	**0.5**	**2.1**	**1.9**	**0.3**	**0.5**	**3.2**	**3.2**	**0.3**	**0.8**	**0.2**
Benzo(k)fluoranthene	T207	AR	0.1	mg/kg	**0.2**	**0.7**	**0.9**	**0.3**	**0.4**	**2.3**	**2.7**	**0.2**	**0.6**	**0.1**
Benzo(a)Pyrene	T207	AR	0.1	mg/kg	**0.5**	**1.6**	**1.3**	**0.3**	**0.6**	**3.9**	**4.0**	**0.4**	**0.9**	**0.2**
Indeno(123-cd)Pyrene	T207	AR	0.1	mg/kg	**0.2**	**0.6**	**0.7**	**0.2**	**0.4**	**1.9**	**1.9**	**0.3**	**0.4**	**0.2**
Dibenzo(ah)Anthracene	T207	AR	0.1	mg/kg	<0.1	**0.2**	**0.2**	<0.1	<0.1	**0.6**	**0.6**	<0.1	**0.1**	<0.1
Benzo(ghi)Perylene	T207	AR	0.1	mg/kg	**0.3**	**0.7**	**0.9**	**0.3**	**0.5**	**3.0**	**2.9**	**0.4**	**0.6**	**0.3**
PAH(total)	T207	AR	0.1	mg/kg	**3.9**	**20**	**13**	**4.0**	**6.1**	**57**	**58**	**3.6**	**14**	**1.6**

SAL Reference: 488274
Project Site: Bay of Nigg
Customer Reference: TC7606

Soil Analysed as Soil
PAH US EPA 16 (B and K split)

				SAL Reference	**488274 028**	**488274 032**	**488274 037**	**488274 041**	**488274 044**	**488274 047**	**488274 052**	**488274 055**	**488274 058**	**488274 061**
				Customer Sample Reference	**L2014-TP08 ES 011**	**L2014-TP09 ES 005**	**L2014-TP10 ES 004**	**L2014-TP10 ES 014**	**L2014-TP11 ES 004**	**L2014-TP11 ES 011**	**L2014-TP12 ES 005**	**L2014-TP13 ES 004**	**L2014-TP13 ES 011**	**L2014-TP14 ES 004**
				Bottom Depth	**3.00**	**1.00**	**0.50**	**4.00**	**0.50**	**3.00**	**1.00**	**0.50**	**3.00**	**0.50**
				Date Sampled	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**17-JUN-2015**	**18-JUN-2015**	**18-JUN-2015**	**18-JUN-2015**	**18-JUN-2015**
				Type	**Sandy Soil**	**Clay**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**										
Naphthalene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	**0.4**	<0.1	<0.1	**0.1**	<0.1	<0.1	<0.1
Anthracene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	**0.1**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	T207	AR	0.1	mg/kg	**0.1**	<0.1	<0.1	**0.8**	<0.1	<0.1	**0.2**	<0.1	<0.1	<0.1
Pyrene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	**0.7**	<0.1	<0.1	**0.1**	<0.1	<0.1	<0.1
Benzo(a)Anthracene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	**0.4**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	**0.3**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b)fluoranthene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	**0.4**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	**0.3**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)Pyrene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	**0.4**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(123-cd)Pyrene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	**0.2**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)Anthracene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)Perylene	T207	AR	0.1	mg/kg	**0.1**	<0.1	<0.1	**0.3**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
PAH(total)	T207	AR	0.1	mg/kg	**0.2**	<0.1	<0.1	**4.4**	<0.1	<0.1	**0.4**	<0.1	<0.1	<0.1

SAL Reference: 488274
Project Site: Bay of Nigg
Customer Reference: TC7606

Water Analysed as Water
Suite F

SAL Reference	**488274 035**
Customer Sample Reference	**L2014-TP09 EW 014**
Bottom Depth	**3.10**
Date Sampled	**17-JUN-2015**

Determinand	Method	Test Sample	LOD	Units	
As (Dissolved)	T281	AR	0.2	µg/l	**2.5**
B (Dissolved)	T373	AR	0.01	mg/l	**0.08**
Cd (Dissolved)	T281	AR	0.02	µg/l	**0.04**
Chloride	T686	AR	1	mg/l	**60**
Cr (Dissolved)	T281	AR	1	µg/l	**3**
Chromium VI	T686	AR	0.003	mg/l	<0.003
Cu (Dissolved)	T281	AR	0.5	µg/l	**10**
Pb (Dissolved)	T281	AR	0.3	µg/l	**0.7**
Hg (Dissolved)	T281	AR	0.05	µg/l	<0.05
Ni (Dissolved)	T281	AR	1	µg/l	**4**
Se (Dissolved)	T281	AR	0.5	µg/l	**1.6**
Zn (Dissolved)	T281	AR	2	µg/l	**4**
Cyanide(Total)	T4	AR	0.05	mg/l	<0.05
Alkalinity expressed as CaCO3	T22	AR	10	mg/l	**70**
Hardness expressed as CaCO3	T6	AR	10	mg/l	**76**
Sulphate	T686	AR	0.5	mg/l	**20**
Total Organic Carbon	T21	AR	1	mg/l	**370**
Ammonia expressed as NH3	T686	AR	0.05	mg/l	**0.15**
pH	T7	AR			**7.3**

SAL Reference: 488274
Project Site: Bay of Nigg
Customer Reference: TC7606

Water Analysed as Water
Miscellaneous

SAL Reference	**488274 035**
Customer Sample Reference	**L2014-TP09 EW 014**
Bottom Depth	**3.10**
Date Sampled	**17-JUN-2015**

Determinand	Method	Test Sample	LOD	Units	
Phenols(Mono)	T4	AR	0.1	mg/l	<0.1
Sulphide	T4	AR	0.05	mg/l	<0.05
Sulphur (total)	T6	AR	50	mg/l	<50

SAL Reference: 488274
Project Site: Bay of Nigg
Customer Reference: TC7606

Water Analysed as Water
TPH UKCWG

SAL Reference	**488274 035**
Customer Sample Reference	**L2014-TP09 EW 014**
Bottom Depth	**3.10**
Date Sampled	**17-JUN -2015**

Determinand	Method	Test Sample	LOD	Units	
Benzene	T54	AR	1	µg/l	(13) <1
EthylBenzene	T54	AR	1	µg/l	<1
M/P Xylene	T54	AR	1	µg/l	<1
Methyl tert-Butyl Ether	T54	AR	1	µg/l	<1
O Xylene	T54	AR	1	µg/l	<1
Toluene	T54	AR	1	µg/l	<1
TPH (C5-C6 aliphatic)	T215	AR	0.010	mg/l	<0.010
TPH (C6-C8 aliphatic)	T215	AR	0.010	mg/l	<0.010
TPH (C8-C10 aliphatic)	T215	AR	0.010	mg/l	<0.010
TPH DW(C10-C12 aliphatic)	T81	AR	0.01	mg/l	<0.01
TPH DW(C12-C16 aliphatic)	T81	AR	0.01	mg/l	<0.01
TPH DW(C16-C21 aliphatic)	T81	AR	0.01	mg/l	<0.01
TPH DW(C21-C35 aliphatic)	T81	AR	0.01	mg/l	<0.01
TPH (C35-C44 aliphatic)	T81	AR	0.01	mg/l	<0.01
TPH (Aliphatic) total	T85	AR		mg/l	N.D.
TPH (C6-C7 aromatic)	T215	AR	0.010	mg/l	<0.010
TPH (C7-C8 aromatic)	T215	AR	0.010	mg/l	<0.010
TPH (C8-C10 aromatic)	T215	AR	0.010	mg/l	<0.010
TPH DW(C10-C12 aromatic)	T81	AR	0.01	mg/l	<0.01
TPH DW(C12-C16 aromatic)	T81	AR	0.01	mg/l	<0.01
TPH DW(C16-C21 aromatic)	T81	AR	0.01	mg/l	<0.01
TPH DW(C21-C35 aromatic)	T81	AR	0.01	mg/l	<0.01
TPH (C35-C44 aromatic)	T81	AR	0.01	mg/l	<0.01
TPH (Aromatic) total	T85	AR		mg/l	N.D.
TPH (Aliphatic+Aromatic) (sum)	T85	AR		mg/l	N.D.
Total Petroleum Hydrocarbons (C5 - C10 aliphatic/aromatic)	T85	AR	0.010	mg/l	<0.010

SAL Reference: 488274
Project Site: Bay of Nigg
Customer Reference: TC7606

Water Analysed as Water

PAH US EPA 16 (B and K split) and Phenol

SAL Reference	**488274 035**
Customer Sample Reference	**L2014-TP09 EW 014**
Bottom Depth	**3.10**
Date Sampled	**17-JUN-2015**

Determinand	Method	Test Sample	LOD	Units	
Naphthalene	T149	AR	0.01	µg/l	**0.03**
Acenaphthylene	T149	AR	0.01	µg/l	<0.01
Acenaphthene	T149	AR	0.01	µg/l	**0.03**
Fluorene	T149	AR	0.01	µg/l	**0.05**
Phenanthrene	T149	AR	0.01	µg/l	**0.14**
Anthracene	T149	AR	0.01	µg/l	**0.04**
Fluoranthene	T149	AR	0.01	µg/l	**0.09**
Pyrene	T149	AR	0.01	µg/l	**0.08**
Benzo(a)Anthracene	T149	AR	0.01	µg/l	**0.08**
Chrysene	T149	AR	0.01	µg/l	**0.08**
Benzo(b)fluoranthene	T149	AR	0.01	µg/l	**0.22**
Benzo(k)fluoranthene	T149	AR	0.01	µg/l	**0.12**
Benzo(a)Pyrene	T149	AR	0.01	µg/l	**0.12**
Indeno(123-cd)Pyrene	T149	AR	0.01	µg/l	**0.10**
Dibenzo(ah)Anthracene	T149	AR	0.01	µg/l	**0.05**
Benzo(ghi)Perylene	T149	AR	0.01	µg/l	**0.14**
PAH(total)	T149	AR	0.01	µg/l	**1.4**
Phenol	T149	AR	0.5	µg/l	<0.5

Index to symbols used in 488274-1

Value	Description
M105	Analysis conducted on an "as received" aliquot. Results are reported on a dry weight basis where moisture content was determined by assisted drying of sample at 105C
AR	As Received
M40	Analysis conducted on sample assisted dried at no more than 40C. Results are reported on a dry weight basis.
N.D.	Not Detected
13	Results have been blank corrected.
100	LOD determined by sample aliquot used for analysis
110	LOD raised due to low internal standard recovery.
9	LOD raised due to dilution of sample
S	Analysis was subcontracted
M	Analysis is MCERTS accredited
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Notes

Asbestos was subcontracted to REC Asbestos

Method Index

Value	Description
T281	ICP/MS (Filtered)
T21	OX/IR
T206	GC/FID (MCERTS)
T546	Colorimetry (CF)
T4	Colorimetry
T8	GC/FID
T54	GC/MS (Headspace)
T85	Calc
T81	GC/FID (LV)
T7	Probe

T215	GC/MS (Headspace)(LV)
T373	ICP/OES (Filtered)
T287	Calc TOC/0.58
T22	Titration
T149	GC/MS (SIR)
T686	Discrete Analyser
T6	ICP/OES
T207	GC/MS (MCERTS)
T209	GC/MS(Head Space)(MCERTS)
T242	2:1 Extraction/ICP/OES (TRL 447 T1)
T2	Grav
T27	PLM
T162	Grav (1 Dec) (105 C)

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Moisture @ 105 C	T162	AR	0.1	%	N	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Retained on 10mm sieve	T2	M40	0.1	%	N	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Asbestos ID	T27	AR			SU	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Arsenic	T6	M40	2	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Boron (water-soluble)	T6	AR	1	mg/kg	N	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Cadmium	T6	M40	1	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Chromium	T6	M40	1	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Chromium VI	T6	AR	1	mg/kg	N	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Copper	T6	M40	1	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Lead	T6	M40	1	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Mercury	T6	M40	1	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Nickel	T6	M40	1	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Zinc	T6	M40	1	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
pH	T7	AR			M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Phenols(Mono)	T546	AR	1	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Selenium	T6	M40	3	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Soil Organic Matter	T287	M40	0.1	%	N	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
(Water Soluble) SO4(2:1) expressed as SO4	T242	AR	10	mg/l	N	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Cyanide(Total)	T4	AR	1	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Sulphide	T4	AR	10	mg/kg	N	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Sulphur (total)	T6	AR	0.01	%	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Benzene	T209	M105	10	µg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Toluene	T209	M105	10	µg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
EthylBenzene	T209	M105	10	µg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Methyl tert-Butyl Ether	T209	M105	10	µg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
O Xylene	T209	M105	10	µg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
M/P Xylene	T209	M105	10	µg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
TPH (C5-C6 aliphatic)	T209	M105	0.100	mg/kg	N	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
TPH (C6-C8 aliphatic)	T209	M105	0.10	mg/kg	N	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
TPH (C8-C10 aliphatic)	T209	M105	0.10	mg/kg	N	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
TPH (C10-C12 aliphatic)	T206	M105	1	mg/kg	N	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
TPH (C12-C16 aliphatic)	T206	M105	2	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
TPH (C16-C21 aliphatic)	T206	M105	1	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
TPH (C21-C35 aliphatic)	T206	M105	4	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
TPH (C35-C44 aliphatic)	T8	M105	1	mg/kg	N	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
TPH (Aliphatic) total	T85	M105		mg/kg	N	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
TPH (C6-C7 aromatic)	T209	M105	0.10	mg/kg	N	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
TPH (C7-C8 aromatic)	T209	M105	0.10	mg/kg	N	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
TPH (C8-C10 aromatic)	T209	M105	0.10	mg/kg	N	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
TPH (C10-C12 aromatic)	T206	M105	1	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
TPH (C12-C16 aromatic)	T206	M105	1	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
TPH (C16-C21 aromatic)	T206	M105	1	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
TPH (C21-C35 aromatic)	T206	M105	1	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
TPH (C35-C44 aromatic)	T8	M105	1	mg/kg	N	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
TPH (Aromatic) total	T85	M105		mg/kg	N	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
TPH (Aliphatic+Aromatic) (sum)	T85	M105		mg/kg	N	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Naphthalene	T207	AR	0.1	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Acenaphthylene	T207	AR	0.1	mg/kg	U	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Acenaphthene	T207	AR	0.1	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Fluorene	T207	AR	0.1	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Phenanthrene	T207	AR	0.1	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Anthracene	T207	AR	0.1	mg/kg	U	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Fluoranthene	T207	AR	0.1	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Pyrene	T207	AR	0.1	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Benzo(a)Anthracene	T207	AR	0.1	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Chrysene	T207	AR	0.1	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Benzo(b)fluoranthene	T207	AR	0.1	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Benzo(k)fluoranthene	T207	AR	0.1	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Benzo(a)Pyrene	T207	AR	0.1	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Indeno(123-cd)Pyrene	T207	AR	0.1	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Dibenzo(ah)Anthracene	T207	AR	0.1	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
Benzo(ghi)Perylene	T207	AR	0.1	mg/kg	M	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
PAH(total)	T207	AR	0.1	mg/kg	U	001,003,006,008,010,012,014,017,020,025,028,032,037,041,044,047,052,055,058,061
As (Dissolved)	T281	AR	0.2	µg/l	U	035
B (Dissolved)	T373	AR	0.01	mg/l	N	035
Cd (Dissolved)	T281	AR	0.02	µg/l	U	035
Chloride	T686	AR	1	mg/l	U	035
Cr (Dissolved)	T281	AR	1	µg/l	U	035
Chromium VI	T686	AR	0.003	mg/l	U	035
Cu (Dissolved)	T281	AR	0.5	µg/l	U	035
Pb (Dissolved)	T281	AR	0.3	µg/l	U	035
Hg (Dissolved)	T281	AR	0.05	µg/l	U	035
Ni (Dissolved)	T281	AR	1	µg/l	U	035
Se (Dissolved)	T281	AR	0.5	µg/l	U	035
Zn (Dissolved)	T281	AR	2	µg/l	U	035
Alkalinity expressed as CaCO3	T22	AR	10	mg/l	N	035
Cyanide(Total)	T4	AR	0.05	mg/l	U	035
Hardness expressed as CaCO3	T6	AR	10	mg/l	N	035
Sulphate	T686	AR	0.5	mg/l	U	035
Total Organic Carbon	T21	AR	1	mg/l	U	035
Ammonia expressed as NH3	T686	AR	0.05	mg/l	U	035
pH	T7	AR			U	035
Phenols(Mono)	T4	AR	0.1	mg/l	U	035
Sulphide	T4	AR	0.05	mg/l	N	035
Sulphur (total)	T6	AR	50	mg/l	N	035

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Benzene	T54	AR	1	µg/l	U	035
EthylBenzene	T54	AR	1	µg/l	U	035
M/P Xylene	T54	AR	1	µg/l	U	035
Methyl tert-Butyl Ether	T54	AR	1	µg/l	U	035
O Xylene	T54	AR	1	µg/l	U	035
Toluene	T54	AR	1	µg/l	U	035
TPH (C5-C6 aliphatic)	T215	AR	0.010	mg/l	N	035
TPH (C6-C8 aliphatic)	T215	AR	0.010	mg/l	N	035
TPH (C8-C10 aliphatic)	T215	AR	0.010	mg/l	N	035
TPH DW(C10-C12 aliphatic)	T81	AR	0.01	mg/l	N	035
TPH DW(C12-C16 aliphatic)	T81	AR	0.01	mg/l	N	035
TPH DW(C16-C21 aliphatic)	T81	AR	0.01	mg/l	N	035
TPH DW(C21-C35 aliphatic)	T81	AR	0.01	mg/l	N	035
TPH (C35-C44 aliphatic)	T81	AR	0.01	mg/l	N	035
TPH (Aliphatic) total	T85	AR		mg/l	N	035
TPH (C6-C7 aromatic)	T215	AR	0.010	mg/l	N	035
TPH (C7-C8 aromatic)	T215	AR	0.010	mg/l	N	035
TPH (C8-C10 aromatic)	T215	AR	0.010	mg/l	N	035
TPH DW(C10-C12 aromatic)	T81	AR	0.01	mg/l	N	035
TPH DW(C12-C16 aromatic)	T81	AR	0.01	mg/l	N	035
TPH DW(C16-C21 aromatic)	T81	AR	0.01	mg/l	N	035
TPH DW(C21-C35 aromatic)	T81	AR	0.01	mg/l	N	035
TPH (C35-C44 aromatic)	T81	AR	0.01	mg/l	N	035
TPH (Aromatic) total	T85	AR		mg/l	N	035
TPH (Aliphatic+Aromatic) (sum)	T85	AR		mg/l	N	035
Total Petroleum Hydrocarbons (C5 - C10 aliphatic/aromatic)	T85	AR	0.010	mg/l	N	035
Naphthalene	T149	AR	0.01	µg/l	U	035
Acenaphthylene	T149	AR	0.01	µg/l	U	035
Acenaphthene	T149	AR	0.01	µg/l	U	035
Fluorene	T149	AR	0.01	µg/l	U	035
Phenanthrene	T149	AR	0.01	µg/l	U	035
Anthracene	T149	AR	0.01	µg/l	U	035
Fluoranthene	T149	AR	0.01	µg/l	U	035
Pyrene	T149	AR	0.01	µg/l	U	035
Benzo(a)Anthracene	T149	AR	0.01	µg/l	U	035
Chrysene	T149	AR	0.01	µg/l	U	035
Benzo(b)fluoranthene	T149	AR	0.01	µg/l	U	035
Benzo(k)fluoranthene	T149	AR	0.01	µg/l	U	035
Benzo(a)Pyrene	T149	AR	0.01	µg/l	U	035
Indeno(123-cd)Pyrene	T149	AR	0.01	µg/l	U	035
Dibenzo(ah)Anthracene	T149	AR	0.01	µg/l	U	035
Benzo(ghi)Perylene	T149	AR	0.01	µg/l	U	035
PAH(total)	T149	AR	0.01	µg/l	U	035
Phenol	T149	AR	0.5	µg/l	U	035

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Scientific Analysis Laboratories Ltd

Certificate of Analysis

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Report Number: 490426-1

Date of Report: 13-Jul-2015

Customer: Soil Engineering Geoservices Limited
Parkside Lane
Dewsbury Road
Leeds
West Yorkshire.
LS11 5SX

Customer Contact: Mr Jonathan Norton

Customer Job Reference: TC7606
Customer Site Reference: Bay of Nigg Harbour Development, Nigg Bay, GI
Date Job Received at SAL: 29-Jun-2015
Date Analysis Started: 03-Jul-2015
Date Analysis Completed: 09-Jul-2015

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
This report should not be reproduced except in full without the written approval of the laboratory
Tests covered by this certificate were conducted in accordance with SAL SOPs
All results have been reviewed in accordance with Section 25 of the SAL Quality Manual

UKAS TESTING 1549

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Report checked and authorised by :
Natasha Wild
Project Manager

Issued by :
Natasha Wild
Project Manager

SAL Reference: 490426
Project Site: Bay of Nigg Harbour Development, Nigg Bay, GI
Customer Reference: TC7606

Soil Analysed as Soil
Miscellaneous

SAL Reference	**490426 002**	**490426 005**
Customer Sample Reference	**L2014-TP18 ES 004**	**L2014-TP18 ES 011**
Bottom Depth	**0.50**	**2.15**
Top Depth	**0.50**	**2.15**
Date Sampled	**19-JUN-2015**	**19-JUN-2015**
Type	**Sandy Soil**	**Sandy Soil**

Determinand	Method	Test Sample	LOD	Units		
SO4(Total)	T6	M40	0.01	%	**0.11**	<0.01
Sulphide	T4	AR	10	mg/kg	<10	<10
Sulphur (total)	T6	M40	0.01	%	**0.04**	<0.01
Vanadium	T6	M40	1	mg/kg	**35**	**11**

SAL Reference: 490426
Project Site: Bay of Nigg Harbour Development, Nigg Bay, GI
Customer Reference: TC7606

Soil Analysed as Soil
MCERTS Preparation

SAL Reference	**490426 002**	**490426 005**
Customer Sample Reference	**L2014-TP18 ES 004**	**L2014-TP18 ES 011**
Bottom Depth	**0.50**	**2.15**
Top Depth	**0.50**	**2.15**
Date Sampled	**19-JUN-2015**	**19-JUN-2015**
Type	**Sandy Soil**	**Sandy Soil**

Determinand	Method	Test Sample	LOD	Units		
Retained on 10mm sieve	T2	AR	0.1	%	<0.1	<0.1
Moisture @ 105 C	T162	AR	0.1	%	**6.3**	**6.8**

SAL Reference: 490426
Project Site: Bay of Nigg Harbour Development, Nigg Bay, GI
Customer Reference: TC7606

Soil Analysed as Soil
Suite E

SAL Reference	**490426 002**	**490426 005**
Customer Sample Reference	**L2014-TP18 ES 004**	**L2014-TP18 ES 011**
Bottom Depth	**0.50**	**2.15**
Top Depth	**0.50**	**2.15**
Date Sampled	**19-JUN-2015**	**19-JUN-2015**
Type	**Sandy Soil**	**Sandy Soil**

Determinand	Method	Test Sample	LOD	Units		
Arsenic	T6	M40	2	mg/kg	**19**	**5**
Asbestos ID	T27	AR			N.D.	N.D.
Boron (water-soluble)	T6	AR	1	mg/kg	<1	<1
Cadmium	T6	M40	1	mg/kg	<1	<1
Chromium	T6	M40	1	mg/kg	**27**	**9**
Chromium VI	T6	AR	1	mg/kg	<1	<1
Copper	T6	M40	1	mg/kg	**23**	**4**
Cyanide(Total)	T4	AR	1	mg/kg	<1	<1
Lead	T6	M40	1	mg/kg	**27**	**3**
Mercury	T6	M40	1	mg/kg	<1	<1
Nickel	T6	M40	1	mg/kg	**22**	**6**
pH	T7	AR			**7.3**	**7.2**
Phenols(Mono)	T546	AR	1	mg/kg	<1	<1
Selenium	T6	M40	3	mg/kg	<3	<3
Soil Organic Matter	T287	AR	0.1	%	**5.8**	**0.3**
(Water Soluble) SO4(2:1) expressed as SO4	T242	AR	10	mg/l	(13) <10	(13) <10
Zinc	T6	M40	1	mg/kg	**55**	**20**

SAL Reference: 490426
Project Site: Bay of Nigg Harbour Development, Nigg Bay, GI
Customer Reference: TC7606

Soil Analysed as Soil
PAH US EPA 16 (B and K split)

SAL Reference	**490426 002**	**490426 005**
Customer Sample Reference	**L2014-TP18 ES 004**	**L2014-TP18 ES 011**
Bottom Depth	**0.50**	**2.15**
Top Depth	**0.50**	**2.15**
Date Sampled	**19-JUN-2015**	**19-JUN-2015**
Type	**Sandy Soil**	**Sandy Soil**

Determinand	Method	Test Sample	LOD	Units		
Naphthalene	T207	M105	0.1	mg/kg	<0.1	<0.1
Acenaphthylene	T207	M105	0.1	mg/kg	<0.1	<0.1
Acenaphthene	T207	M105	0.1	mg/kg	<0.1	<0.1
Fluorene	T207	M105	0.1	mg/kg	<0.1	<0.1
Phenanthrene	T207	M105	0.1	mg/kg	**0.1**	<0.1
Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1
Fluoranthene	T207	M105	0.1	mg/kg	**0.2**	<0.1
Pyrene	T207	M105	0.1	mg/kg	**0.2**	<0.1
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1
Chrysene	T207	M105	0.1	mg/kg	<0.1	<0.1
Benzo(b)fluoranthene	T207	M105	0.1	mg/kg	<0.1	<0.1
Benzo(k)fluoranthene	T207	M105	0.1	mg/kg	<0.1	<0.1
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	<0.1	<0.1
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	<0.1	<0.1
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	<0.1	<0.1
PAH(total)	T207	M105	0.1	mg/kg	**0.4**	<0.1

SAL Reference: 490426
Project Site: Bay of Nigg Harbour Development, Nigg Bay, GI
Customer Reference: TC7606

Soil Analysed as Soil
TPH UKCWG

				SAL Reference	**490426 002**	**490426 005**
				Customer Sample Reference	**L2014-TP18 ES 004**	**L2014-TP18 ES 011**
				Bottom Depth	**0.50**	**2.15**
				Top Depth	**0.50**	**2.15**
				Date Sampled	**19-JUN-2015**	**19-JUN-2015**
				Type	**Sandy Soil**	**Sandy Soil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**		
Benzene	T209	M105	10	µg/kg	(13) <10	(13) <10
Toluene	T209	M105	10	µg/kg	<10	<10
EthylBenzene	T209	M105	10	µg/kg	<10	<10
Methyl tert-Butyl Ether	T209	M105	10	µg/kg	<10	<10
O Xylene	T209	M105	10	µg/kg	<10	<10
M/P Xylene	T209	M105	10	µg/kg	<10	<10
TPH (C5-C6 aliphatic)	T209	M105	100	µg/kg	<100	<100
TPH (C6-C8 aliphatic)	T209	M105	100	µg/kg	<100	<100
TPH (C8-C10 aliphatic)	T209	M105	100	µg/kg	<100	<100
TPH (C10-C12 aliphatic)	T206	M105	1	mg/kg	<1	<1
TPH (C12-C16 aliphatic)	T206	M105	2	mg/kg	<2	<2
TPH (C16-C21 aliphatic)	T206	M105	1	mg/kg	<1	<1
TPH (C21-C35 aliphatic)	T206	M105	4	mg/kg	<4	<4
TPH (C35-C44 aliphatic)	T8	M105	1	mg/kg	<1	<1
TPH (Aliphatic) total	T85	M105		mg/kg	N.D.	N.D.
TPH (C6-C7 aromatic)	T209	M105	100	µg/kg	<100	<100
TPH (C7-C8 aromatic)	T209	M105	100	µg/kg	<100	<100
TPH (C8-C10 aromatic)	T209	M105	100	µg/kg	<100	<100
TPH (C10-C12 aromatic)	T206	M105	1	mg/kg	<1	<1
TPH (C12-C16 aromatic)	T206	M105	1	mg/kg	<1	<1
TPH (C16-C21 aromatic)	T206	M105	1	mg/kg	<1	<1
TPH (C21-C35 aromatic)	T206	M105	1	mg/kg	<1	<1
TPH (C35-C44 aromatic)	T8	M105	1	mg/kg	<1	<1
TPH (Aromatic) total	T85	M105		mg/kg	N.D.	N.D.
TPH (Aliphatic+Aromatic) (sum)	T85	M105		mg/kg	N.D.	N.D.

Index to symbols used in 490426-1

Value	Description
M105	Analysis conducted on an "as received" aliquot. Results are reported on a dry weight basis where moisture content was determined by assisted drying of sample at 105C
AR	As Received
M40	Analysis conducted on sample assisted dried at no more than 40C. Results are reported on a dry weight basis.
N.D.	Not Detected
13	Results have been blank corrected.
S	Analysis was subcontracted
M	Analysis is MCERTS accredited
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Notes

Asbestos was subcontracted to REC Asbestos

Method Index

Value	Description
T287	Calc TOC/0.58
T242	2:1 Extraction/ICP/OES (TRL 447 T1)
T6	ICP/OES

T4	Colorimetry
T7	Probe
T8	GC/FID
T27	PLM
T162	Grav (1 Dec) (105 C)
T209	GC/MS(Head Space)(MCERTS)
T2	Grav
T85	Calc
T546	Colorimetry (CF)
T206	GC/FID (MCERTS)
T207	GC/MS (MCERTS)

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
SO4(Total)	T6	M40	0.01	%	U	002,005
Sulphide	T4	AR	10	mg/kg	N	002,005
Sulphur (total)	T6	M40	0.01	%	M	002,005
Vanadium	T6	M40	1	mg/kg	M	002,005
Retained on 10mm sieve	T2	AR	0.1	%	N	002,005
Moisture @ 105 C	T162	AR	0.1	%	N	002,005
Arsenic	T6	M40	2	mg/kg	M	002,005
Asbestos ID	T27	AR			SU	002,005
Boron (water-soluble)	T6	AR	1	mg/kg	N	002,005
Cadmium	T6	M40	1	mg/kg	M	002,005
Chromium	T6	M40	1	mg/kg	M	002,005
Chromium VI	T6	AR	1	mg/kg	N	002,005
Copper	T6	M40	1	mg/kg	M	002,005
Cyanide(Total)	T4	AR	1	mg/kg	M	002,005
Lead	T6	M40	1	mg/kg	M	002,005
Mercury	T6	M40	1	mg/kg	M	002,005
Nickel	T6	M40	1	mg/kg	M	002,005
pH	T7	AR			M	002,005
Phenols(Mono)	T546	AR	1	mg/kg	M	002,005
Selenium	T6	M40	3	mg/kg	M	002,005
Soil Organic Matter	T287	AR	0.1	%	N	002,005
(Water Soluble) SO4(2:1) expressed as SO4	T242	AR	10	mg/l	N	002,005
Zinc	T6	M40	1	mg/kg	M	002,005
Naphthalene	T207	M105	0.1	mg/kg	M	002,005
Acenaphthylene	T207	M105	0.1	mg/kg	U	002,005
Acenaphthene	T207	M105	0.1	mg/kg	M	002,005
Fluorene	T207	M105	0.1	mg/kg	M	002,005
Phenanthrene	T207	M105	0.1	mg/kg	M	002,005
Anthracene	T207	M105	0.1	mg/kg	U	002,005
Fluoranthene	T207	M105	0.1	mg/kg	M	002,005
Pyrene	T207	M105	0.1	mg/kg	M	002,005
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	M	002,005
Chrysene	T207	M105	0.1	mg/kg	M	002,005
Benzo(b)fluoranthene	T207	M105	0.1	mg/kg	M	002,005
Benzo(k)fluoranthene	T207	M105	0.1	mg/kg	M	002,005
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	M	002,005
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	M	002,005
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	M	002,005
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	M	002,005
PAH(total)	T207	M105	0.1	mg/kg	U	002,005
Benzene	T209	M105	10	µg/kg	M	002,005
Toluene	T209	M105	10	µg/kg	M	002,005
EthylBenzene	T209	M105	10	µg/kg	M	002,005
Methyl tert-Butyl Ether	T209	M105	10	µg/kg	M	002,005
O Xylene	T209	M105	10	µg/kg	M	002,005
M/P Xylene	T209	M105	10	µg/kg	M	002,005
TPH (C5-C6 aliphatic)	T209	M105	100	µg/kg	N	002,005
TPH (C6-C8 aliphatic)	T209	M105	100	µg/kg	N	002,005
TPH (C8-C10 aliphatic)	T209	M105	100	µg/kg	N	002,005
TPH (C10-C12 aliphatic)	T206	M105	1	mg/kg	N	002,005
TPH (C12-C16 aliphatic)	T206	M105	2	mg/kg	M	002,005
TPH (C16-C21 aliphatic)	T206	M105	1	mg/kg	M	002,005
TPH (C21-C35 aliphatic)	T206	M105	4	mg/kg	M	002,005
TPH (C35-C44 aliphatic)	T8	M105	1	mg/kg	N	002,005
TPH (Aliphatic) total	T85	M105		mg/kg	N	002,005

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
TPH (C6-C7 aromatic)	T209	M105	100	µg/kg	N	002,005
TPH (C7-C8 aromatic)	T209	M105	100	µg/kg	N	002,005
TPH (C8-C10 aromatic)	T209	M105	100	µg/kg	N	002,005
TPH (C10-C12 aromatic)	T206	M105	1	mg/kg	M	002,005
TPH (C12-C16 aromatic)	T206	M105	1	mg/kg	M	002,005
TPH (C16-C21 aromatic)	T206	M105	1	mg/kg	M	002,005
TPH (C21-C35 aromatic)	T206	M105	1	mg/kg	M	002,005
TPH (C35-C44 aromatic)	T8	M105	1	mg/kg	N	002,005
TPH (Aromatic) total	T85	M105		mg/kg	N	002,005
TPH (Aliphatic+Aromatic) (sum)	T85	M105		mg/kg	N	002,005

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Scientific Analysis Laboratories Ltd

Certificate of Analysis

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Report Number: 491352-2

Date of Report: 16-Jul-2015

Customer: Soil Engineering Geoservices Limited
Parkside Lane
Dewsbury Road
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West Yorkshire.
LS11 5SX

Customer Contact: Mr Stuart Kirk

Customer Job Reference: TC7606
Customer Site Reference: Bay of Nigg Harbour Development Ground Investigation
Date Job Received at SAL: 03-Jul-2015
Date Analysis Started: 08-Jul-2015
Date Analysis Completed: 16-Jul-2015

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
This report should not be reproduced except in full without the written approval of the laboratory
Tests covered by this certificate were conducted in accordance with SAL SOPs
All results have been reviewed in accordance with Section 25 of the SAL Quality Manual

1549

Report checked
and authorised by :
Simi Okanlami
Project Manager

Issued by :
Simi Okanlami
Project Manager

SAL Reference: 491352
Project Site: Bay of Nigg Harbour Development Ground Investigation
Customer Reference: TC7606

Soil Analysed as Soil
Miscellaneous

				SAL Reference	**491352 001**	**491352 002**	**491352 003**	**491352 004**	**491352 005**
				Customer Sample Reference	**L2014-2 D006 @ 1.200m**	**L2014-2 D017 @ 5.000m**	**L2014-7W D010 @ 2.000m**	**L2014-12 D011 @ 1.700m**	**L2014-12 D027 @ 4.950m**
				Date Sampled	**30-JUN-2015**	**30-JUN-2015**	**30-JUN-2015**	**30-JUN-2015**	**30-JUN-2015**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
(Water soluble) Ammonia expressed as NH4	T710	AR	0.01	g/l	<0.01	<0.01	-	<0.01	<0.01
(Water soluble) Cl-	T710	A40	0.01	g/l	**0.01**	**0.07**	**0.04**	**0.04**	**0.62**
(Water soluble) Mg	T251	A40	1	mg/l	**3**	**4**	-	**7**	**160**
(Water soluble) NO3	T710	A40	0.01	g/l	<0.01	<0.01	**0.08**	<0.01	<0.01
(Water Soluble) SO4 expressed as SO4	T242	A40	0.01	g/l	**0.02**	**0.03**	**0.12**	**0.07**	**1.2**
Sulphide	T4	A40	10	mg/kg	<10	<10	-	<10	**59**
pH	T7	A40			**9.2**	**8.8**	**8.5**	**8.1**	**4.9**
Retained on 2mm	T2	A40	0.1	%	<0.1	<0.1	<0.1	<0.1	(32) <0.1

SAL Reference: 491352
Project Site: Bay of Nigg Harbour Development Ground Investigation
Customer Reference: TC7606

Soil Analysed as Soil
Miscellaneous

				SAL Reference	**491352 006**	**491352 007**	**491352 008**	**491352 009**	**491352 010**
				Customer Sample Reference	**L2014-13 D010 @ 1.200m**	**L2014-13 D020 @ 4.000m**	**L2014-14 D009 @ 1.500m**	**L2014-17 D011 @ 1.700m**	**L2014-24W D025 @ 7.000m**
				Date Sampled	**30-JUN-2015**	**30-JUN-2015**	**30-JUN-2015**	**30-JUN-2015**	**30-JUN-2015**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
(Water soluble) Ammonia expressed as NH4	T710	AR	0.01	g/l	<0.01	<0.01	<0.01	<0.01	<0.01
(Water soluble) Cl-	T710	A40	0.01	g/l	**0.19**	**0.41**	**0.02**	**0.01**	**0.24**
(Water soluble) Mg	T251	A40	1	mg/l	**17**	**21**	**3**	**2**	**360**
(Water soluble) NO3	T710	A40	0.01	g/l	<0.01	<0.01	<0.01	**0.01**	<0.01
Organic Matter	T258	A40	0.5	%	-	-	-	-	**11**
(Water Soluble) SO4 expressed as SO4	T242	A40	0.01	g/l	**0.07**	**0.10**	**0.03**	**0.01**	**3.1**
(Acid Soluble) SO4	T192	A40	0.01	%	**0.03**	**0.04**	**0.02**	**0.02**	**0.90**
Sulphide	T4	A40	10	mg/kg	<10	<10	<10	<10	**32**
Sulphur (total)	T6	A40	0.01	%	**0.03**	**0.02**	**0.02**	<0.01	**1.6**
pH	T7	A40			**5.9**	**7.4**	**8.7**	**6.8**	**6.2**
Retained on 2mm	T2	A40	0.1	%	(32) <0.1	<0.1	<0.1	<0.1	(32) <0.1

SAL Reference: 491352
Project Site: Bay of Nigg Harbour Development Ground Investigation
Customer Reference: TC7606

Soil Analysed as Soil
Miscellaneous

				SAL Reference	**491352 011**	**491352 012**	**491352 013**	**491352 014**	**491352 015**
				Customer Sample Reference	**L2014-24W D034 @ 11.000m**	**L2014-27 D010 @ 2.200m**	**L2014-27 D020 @ 5.000-5.450m**	**L2014-27 D028 @ 9.000m**	**L2014-28 D005 @ 0.500m**
				Date Sampled	**30-JUN-2015**	**30-JUN-2015**	**30-JUN-2015**	**30-JUN-2015**	**30-JUN-2015**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
(Water soluble) Ammonia expressed as NH4	T710	AR	0.01	g/l	<0.01	-	-	-	-
(Water soluble) Cl-	T710	A40	0.01	g/l	**0.02**	**0.03**	**0.04**	**0.03**	<0.01
(Water soluble) Mg	T251	A40	1	mg/l	**7**	-	-	-	-
(Water soluble) NO3	T710	A40	0.01	g/l	<0.01	<0.01	<0.01	<0.01	**0.02**
(Water Soluble) SO4 expressed as SO4	T242	A40	0.01	g/l	**0.09**	**0.03**	**0.03**	**0.02**	**0.01**
(Acid Soluble) SO4	T192	A40	0.01	%	**0.03**	-	-	-	-
Sulphide	T4	A40	10	mg/kg	<10	-	-	-	-
Sulphur (total)	T6	A40	0.01	%	**0.06**	-	-	-	-
pH	T7	A40			**7.2**	**7.1**	**7.6**	**7.6**	**6.4**
Retained on 2mm	T2	A40	0.1	%	<0.1	<0.1	(32) <0.1	(32) <0.1	(32) <0.1

SAL Reference: 491352
Project Site: Bay of Nigg Harbour Development Ground Investigation
Customer Reference: TC7606

Soil Analysed as Soil
Miscellaneous

	SAL Reference	491352 016	491352 017	491352 018	491352 019	491352 020
	Customer Sample Reference	L2014-28 D017 @ 3.200-3.650m	L2014-28 D026 @ 6.700-7.150m	L2014-29 D005 @ 0.500m	L2014-29 D013 @ 3.000m	L2014-29 D020 @ 6.200m
	Date Sampled	30-JUN-2015	30-JUN-2015	30-JUN-2015	30-JUN-2015	30-JUN-2015

Determinand	Method	Test Sample	LOD	Units					
(Water soluble) Cl-	T710	A40	0.01	g/l	<0.01	**0.04**	**0.01**	<0.01	<0.01
(Water soluble) NO3	T710	A40	0.01	g/l	<0.01	<0.01	<0.01	<0.01	<0.01
(Water Soluble) SO4 expressed as SO4	T242	A40	0.01	g/l	**0.01**	**0.02**	**0.02**	**0.03**	**0.02**
pH	T7	A40			**8.2**	**7.6**	**6.6**	**6.4**	**6.9**
Retained on 2mm	T2	A40	0.1	%	(32) <0.1	(32) <0.1	<0.1	<0.1	<0.1

SAL Reference: 491352
Project Site: Bay of Nigg Harbour Development Ground Investigation
Customer Reference: TC7606

Water Analysed as Water
Miscellaneous

	SAL Reference	491352 021
	Customer Sample Reference	L2014-14 W020 @ 4.000m
	Date Sampled	18-MAY-2015

Determinand	Method	Test Sample	LOD	Units	
Ammonia expressed as NH4	T686	F	0.05	mg/l	**0.94**
Aggressive CO2	T512	AR	10	mg/l	(IS)
Chloride	T686	F	1	mg/l	**240**
Magnesium	T6	F	0.1	mg/l	**24**
Nitrate	T686	F	0.5	mg/l	**3.0**
Sulphate	T686	F	0.5	mg/l	**3.8**
Total Dissolved Solids	T118	F	10	mg/l	**3100**
pH	T7	F			**7.0**

Index to symbols used in 491352-2

Value	Description
AR	As Received
F	Filtered
A40	Assisted dried < 40C
32	Whole sample was crushed
IS	Insufficient Sample
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Notes

Carbon Dioxide (021) - No result due to insufficient amount of sample

Method Index

Value	Description
T4	Colorimetry
T118	Grav (4 Sig)(1l)
T512	Titration (BS13577)
T686	Discrete Analyser
T251	2:1 Extraction/ICP/OES
T2	Grav
T258	Titration (Dichromate)
T242	2:1 Extraction/ICP/OES (TRL 447 T1)
T192	HCl Extraction/ICP/OES (TRL 447 T2)
T710	2:1 Extraction / Discrete Analyser

T6	ICP/OES
T7	Probe

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
(Water soluble) Ammonia expressed as NH4	T710	AR	0.01	g/l	N	001-002,004-011
(Water soluble) Cl-	T710	A40	0.01	g/l	N	001-020
(Water soluble) Mg	T251	A40	1	mg/l	N	001-002,004-011
(Water soluble) NO3	T710	A40	0.01	g/l	N	001-020
Organic Matter	T258	A40	0.5	%	N	010
(Water Soluble) SO4 expressed as SO4	T242	A40	0.01	g/l	U	001-020
(Acid Soluble) SO4	T192	A40	0.01	%	U	006-011
Sulphide	T4	A40	10	mg/kg	N	001-002,004-011
Sulphur (total)	T6	A40	0.01	%	U	006-011
pH	T7	A40			U	001-020
Retained on 2mm	T2	A40	0.1	%	N	001-020
Ammonia expressed as NH4	T686	F	0.05	mg/l	U	021
Aggressive CO2	T512	AR	10	mg/l	N	021
Chloride	T686	F	1	mg/l	U	021
Magnesium	T6	F	0.1	mg/l	U	021
Nitrate	T686	F	0.5	mg/l	U	021
Sulphate	T686	F	0.5	mg/l	U	021
Total Dissolved Solids	T118	F	10	mg/l	N	021
pH	T7	F			U	021

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Scientific Analysis Laboratories Ltd

Certificate of Analysis

Scientific Analysis Laboratories is a limited company registered in England and Wales (No 2514788) whose address is at Hadfield House, Hadfield Street, Manchester M16 9FE

Report Number: 492021-1

Date of Report: 21-Jul-2015

Customer: Soil Engineering Geoservices Limited
Parkside Lane
Dewsbury Road
Leeds
West Yorkshire.
LS11 5SX

Customer Contact: Mr Andrew De Joux

Customer Job Reference: TC7606
Customer Site Reference: Bay of Nigg Harbour Development Ground Investigation
Date Job Received at SAL: 01-Jul-2015
Date Analysis Started: 09-Jul-2015
Date Analysis Completed: 20-Jul-2015

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
This report should not be reproduced except in full without the written approval of the laboratory
Tests covered by this certificate were conducted in accordance with SAL SOPs
All results have been reviewed in accordance with Section 25 of the SAL Quality Manual

UKAS TESTING 1549

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Report checked and authorised by :
Natasha Wild
Project Manager

Issued by :
Natasha Wild
Project Manager

SAL Reference: 492021
Project Site: Bay of Nigg Harbour Development Ground Investigation
Customer Reference: TC7606

Soil Analysed as Soil
Moisture

SAL Reference	492021 002	492021 004	492021 006	492021 008	492021 010	492021 012	492021 015	492021 017	492021 020
Customer Sample Reference	L2014-TP07 ES 004	L2014-TP07 ES 008	L2014-TP20 ES 004	L2014-TP20 ES 008	L2014-TP21 ES 004	L2014-TP21 ES 008	L2014-TP22 ES 004	L2014-TP22 ES 008	L2014-TP23 ES 004
Bottom Depth	0.50	2.00	0.50	2.00	0.50	2.00	0.50	1.50	0.50
Top Depth	0.50	2.00	0.50	2.00	0.50	2.00	0.50	1.50	0.50
Date Sampled	30-JUN-2015	30-JUN-2015	29-JUN-2015	29-JUN-2015	30-JUN-2015	30-JUN-2015	29-JUN-2015	29-JUN-2015	29-JUN-2015
Type	Sandy Soil	Sandy Soil	Sandy Soil	Sandy Soil	Sandy Soil	Sandy Soil	Sandy Soil	Sandy Soil	Sandy Soil

Determinand	Method	Test Sample	LOD	Units									
Moisture @ 105 C	T162	AR	0.1	%	**8.8**	**6.4**	**16**	**3.5**	**13**	**11**	**9.1**	**14**	**5.8**

SAL Reference: 492021
Project Site: Bay of Nigg Harbour Development Ground Investigation
Customer Reference: TC7606

Soil Analysed as Soil
Miscellaneous

SAL Reference	492021 002	492021 004	492021 006	492021 008	492021 010	492021 012	492021 015	492021 017	492021 020
Customer Sample Reference	L2014-TP07 ES 004	L2014-TP07 ES 008	L2014-TP20 ES 004	L2014-TP20 ES 008	L2014-TP21 ES 004	L2014-TP21 ES 008	L2014-TP22 ES 004	L2014-TP22 ES 008	L2014-TP23 ES 004
Bottom Depth	0.50	2.00	0.50	2.00	0.50	2.00	0.50	1.50	0.50
Top Depth	0.50	2.00	0.50	2.00	0.50	2.00	0.50	1.50	0.50
Date Sampled	30-JUN-2015	30-JUN-2015	29-JUN-2015	29-JUN-2015	30-JUN-2015	30-JUN-2015	29-JUN-2015	29-JUN-2015	29-JUN-2015
Type	Sandy Soil	Sandy Soil	Sandy Soil	Sandy Soil	Sandy Soil	Sandy Soil	Sandy Soil	Sandy Soil	Sandy Soil

Determinand	Method	Test Sample	LOD	Units									
Retained on 10mm sieve	T2	M40	0.1	%	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
SO4(Total)	T6	M40	0.01	%	**0.06**	**0.04**	**0.05**	**0.04**	**0.05**	**0.04**	**0.07**	<0.01	**0.04**
Sulphide	T4	M40	10	mg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10
Sulphur (total)	T6	M40	0.01	%	**0.03**	**0.02**	**0.03**	**0.03**	**0.02**	**0.02**	**0.29**	<0.01	<0.01
Vanadium	T6	M40	1	mg/kg	**36**	**34**	**33**	**31**	**36**	**48**	**30**	**27**	**28**

SAL Reference: 492021
Project Site: Bay of Nigg Harbour Development Ground Investigation
Customer Reference: TC7606

Soil Analysed as Soil
Suite E

SAL Reference	**492021 002**	**492021 004**	**492021 006**	**492021 008**	**492021 010**	**492021 012**	**492021 015**	**492021 017**	**492021 020**
Customer Sample Reference	**L2014-TP07 ES 004**	**L2014-TP07 ES 008**	**L2014-TP20 ES 004**	**L2014-TP20 ES 008**	**L2014-TP21 ES 004**	**L2014-TP21 ES 008**	**L2014-TP22 ES 004**	**L2014-TP22 ES 008**	**L2014-TP23 ES 004**
Bottom Depth	**0.50**	**2.00**	**0.50**	**2.00**	**0.50**	**2.00**	**0.50**	**1.50**	**0.50**
Top Depth	**0.50**	**2.00**	**0.50**	**2.00**	**0.50**	**2.00**	**0.50**	**1.50**	**0.50**
Date Sampled	**30-JUN-2015**	**30-JUN-2015**	**29-JUN-2015**	**29-JUN-2015**	**30-JUN-2015**	**30-JUN-2015**	**29-JUN-2015**	**29-JUN-2015**	**29-JUN-2015**
Type	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**

Determinand	Method	Test Sample	LOD	Units									
Arsenic	T6	M40	2	mg/kg	**9**	**10**	**6**	**10**	**12**	**9**	**17**	**2**	**13**
Asbestos ID	T27	AR			N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Boron (water-soluble)	T6	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium	T6	M40	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium	T6	M40	1	mg/kg	**34**	**28**	**24**	**26**	**23**	**39**	**19**	**31**	**22**
Chromium VI	T6	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1
Copper	T6	M40	1	mg/kg	**48**	**21**	**27**	**22**	**16**	**14**	**15**	**11**	**10**
Cyanide(Total)	T4	M40	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1
Lead	T6	M40	1	mg/kg	**27**	**39**	**93**	**64**	**18**	**18**	**29**	**10**	**11**
Mercury	T6	M40	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1
Nickel	T6	M40	1	mg/kg	**24**	**19**	**16**	**17**	**11**	**21**	**10**	**17**	**12**
pH	T7	AR			**8.3**	**7.8**	**7.2**	**7.4**	**6.8**	**6.8**	**6.4**	**6.9**	**6.7**
Phenols(Mono)	T546	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1
Selenium	T6	M40	3	mg/kg	<3	<3	<3	<3	<3	<3	<3	<3	<3
Soil Organic Matter	T287	AR	0.1	%	**2.4**	**2.3**	**3.2**	**2.0**	**2.4**	**1.6**	**2.4**	**0.3**	**1.2**
(Water Soluble) SO4(2:1) expressed as SO4	T242	AR	10	mg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10
Zinc	T6	M40	1	mg/kg	**130**	**87**	**91**	**99**	**50**	**84**	**51**	**52**	**44**

SAL Reference: 492021
Project Site: Bay of Nigg Harbour Development Ground Investigation
Customer Reference: TC7606

Soil Analysed as Soil
TPH UKCWG

SAL Reference					**492021 002**	**492021 004**	**492021 006**	**492021 008**	**492021 010**	**492021 012**	**492021 015**	**492021 017**	**492021 020**
Customer Sample Reference					**L2014-TP07 ES 004**	**L2014-TP07 ES 008**	**L2014-TP20 ES 004**	**L2014-TP20 ES 008**	**L2014-TP21 ES 004**	**L2014-TP21 ES 008**	**L2014-TP22 ES 004**	**L2014-TP22 ES 008**	**L2014-TP23 ES 004**
Bottom Depth					**0.50**	**2.00**	**0.50**	**2.00**	**0.50**	**2.00**	**0.50**	**1.50**	**0.50**
Top Depth					**0.50**	**2.00**	**0.50**	**2.00**	**0.50**	**2.00**	**0.50**	**1.50**	**0.50**
Date Sampled					**30-JUN-2015**	**30-JUN-2015**	**29-JUN-2015**	**29-JUN-2015**	**30-JUN-2015**	**30-JUN-2015**	**29-JUN-2015**	**29-JUN-2015**	**29-JUN-2015**
Type					**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**									
Benzene	T209	M105	10	µg/kg	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10
Toluene	T209	M105	10	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10
EthylBenzene	T209	M105	10	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10
Methyl tert-Butyl Ether	T209	M105	10	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10
O Xylene	T209	M105	10	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10
M/P Xylene	T209	M105	10	µg/kg	<10	<10	<10	<10	<10	<10	<10	<10	<10
TPH (C5-C6 aliphatic)	T209	M105	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C6-C8 aliphatic)	T209	M105	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TPH (C8-C10 aliphatic)	T209	M105	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TPH (C10-C12 aliphatic)	T206	M105	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1
TPH (C12-C16 aliphatic)	T206	M105	2	mg/kg	<2	<2	<2	<2	<2	<2	<2	<2	<2
TPH (C16-C21 aliphatic)	T206	M105	1	mg/kg	<1	<1	**2**	<1	<1	**2**	<1	<1	**2**
TPH (C21-C35 aliphatic)	T206	M105	4	mg/kg	<4	<4	<4	<4	<4	<4	<4	<4	<4
TPH (C35-C44 aliphatic)	T8	M105	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1
TPH (Aliphatic) total	T85	M105		mg/kg	N.D.	N.D.	**2.0**	N.D.	N.D.	**2.0**	N.D.	N.D.	**2.0**
TPH (C6-C7 aromatic)	T209	M105	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TPH (C7-C8 aromatic)	T209	M105	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TPH (C8-C10 aromatic)	T209	M105	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TPH (C10-C12 aromatic)	T206	M105	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1
TPH (C12-C16 aromatic)	T206	M105	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1
TPH (C16-C21 aromatic)	T206	M105	1	mg/kg	<1	<1	**1**	<1	<1	<1	<1	<1	<1
TPH (C21-C35 aromatic)	T206	M105	1	mg/kg	<1	<1	**4**	<1	<1	<1	<1	<1	<1
TPH (C35-C44 aromatic)	T8	M105	1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1
TPH (Aromatic) total	T85	M105		mg/kg	N.D.	N.D.	**5.0**	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
TPH (Aliphatic+Aromatic) (sum)	T85	M105		mg/kg	N.D.	N.D.	**7.0**	N.D.	N.D.	**2.0**	N.D.	N.D.	**2.0**

SAL Reference: 492021
Project Site: Bay of Nigg Harbour Development Ground Investigation
Customer Reference: TC7606

Soil Analysed as Soil
PAH US EPA 16 (B and K split)

SAL Reference	**492021 002**	**492021 004**	**492021 006**	**492021 008**	**492021 010**	**492021 012**	**492021 015**	**492021 017**	**492021 020**
Customer Sample Reference	**L2014-TP07 ES 004**	**L2014-TP07 ES 008**	**L2014-TP20 ES 004**	**L2014-TP20 ES 008**	**L2014-TP21 ES 004**	**L2014-TP21 ES 008**	**L2014-TP22 ES 004**	**L2014-TP22 ES 008**	**L2014-TP23 ES 004**
Bottom Depth	**0.50**	**2.00**	**0.50**	**2.00**	**0.50**	**2.00**	**0.50**	**1.50**	**0.50**
Top Depth	**0.50**	**2.00**	**0.50**	**2.00**	**0.50**	**2.00**	**0.50**	**1.50**	**0.50**
Date Sampled	**30-JUN-2015**	**30-JUN-2015**	**29-JUN-2015**	**29-JUN-2015**	**30-JUN-2015**	**30-JUN-2015**	**29-JUN-2015**	**29-JUN-2015**	**29-JUN-2015**
Type	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**	**Sandy Soil**

Determinand	Method	Test Sample	LOD	Units									
Naphthalene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	T207	M105	0.1	mg/kg	<0.1	<0.1	**0.7**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1	**0.2**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	T207	M105	0.1	mg/kg	<0.1	<0.1	**1.2**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	T207	M105	0.1	mg/kg	<0.1	<0.1	**1.2**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1	**0.5**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	T207	M105	0.1	mg/kg	<0.1	<0.1	**0.4**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b)fluoranthene	T207	M105	0.1	mg/kg	<0.1	<0.1	**0.4**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	T207	M105	0.1	mg/kg	<0.1	<0.1	**0.3**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	<0.1	<0.1	**0.4**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	<0.1	<0.1	**0.2**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	<0.1	<0.1	**0.2**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
PAH(total)	T207	M105	0.1	mg/kg	<0.1	<0.1	**5.7**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Index to symbols used in 492021-1

Value	Description
M105	Analysis conducted on an "as received" aliquot. Results are reported on a dry weight basis where moisture content was determined by assisted drying of sample at 105C
AR	As Received
M40	Analysis conducted on sample assisted dried at no more than 40C. Results are reported on a dry weight basis.
N.D.	Not Detected
13	Results have been blank corrected.
S	Analysis was subcontracted
M	Analysis is MCERTS accredited
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Notes

Asbestos was subcontracted to REC Asbestos.

Method Index

Value	Description
T8	GC/FID
T27	PLM
T287	Calc TOC/0.58
T4	Colorimetry
T242	2:1 Extraction/ICP/OES (TRL 447 T1)
T7	Probe
T206	GC/FID (MCERTS)
T209	GC/MS(Head Space)(MCERTS)
T546	Colorimetry (CF)
T85	Calc

T162	Grav (1 Dec) (105 C)
T207	GC/MS (MCERTS)
T6	ICP/OES
T2	Grav

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Retained on 10mm sieve	T2	M40	0.1	%	N	002,004,006,008,010,012,015,017,020
SO4(Total)	T6	M40	0.01	%	U	002,004,006,008,010,012,015,017,020
Sulphide	T4	M40	10	mg/kg	N	002,004,006,008,010,012,015,017,020
Sulphur (total)	T6	M40	0.01	%	M	002,004,006,008,010,012,015,017,020
Vanadium	T6	M40	1	mg/kg	M	002,004,006,008,010,012,015,017,020
Arsenic	T6	M40	2	mg/kg	M	002,004,006,008,010,012,015,017,020
Asbestos ID	T27	AR			SU	002,004,006,008,010,012,015,017,020
Boron (water-soluble)	T6	AR	1	mg/kg	N	002,004,006,008,010,012,015,017,020
Cadmium	T6	M40	1	mg/kg	M	002,004,006,008,010,012,015,017,020
Chromium	T6	M40	1	mg/kg	M	002,004,006,008,010,012,015,017,020
Chromium VI	T6	AR	1	mg/kg	N	002,004,006,008,010,012,015,017,020
Copper	T6	M40	1	mg/kg	M	002,004,006,008,010,012,015,017,020
Cyanide(Total)	T4	M40	1	mg/kg	M	002,004,006,008,010,012,015,017,020
Lead	T6	M40	1	mg/kg	M	002,004,006,008,010,012,015,017,020
Mercury	T6	M40	1	mg/kg	M	002,004,006,008,010,012,015,017,020
Nickel	T6	M40	1	mg/kg	M	002,004,006,008,010,012,015,017,020
pH	T7	AR			M	002,004,006,008,010,012,015,017,020
Phenols(Mono)	T546	AR	1	mg/kg	M	002,004,006,008,010,012,015,017,020
Selenium	T6	M40	3	mg/kg	M	002,004,006,008,010,012,015,017,020
Soil Organic Matter	T287	AR	0.1	%	N	002,004,006,008,010,012,015,017,020
(Water Soluble) SO4(2:1) expressed as SO4	T242	AR	10	mg/l	N	002,004,006,008,010,012,015,017,020
Zinc	T6	M40	1	mg/kg	M	002,004,006,008,010,012,015,017,020
Naphthalene	T207	M105	0.1	mg/kg	M	002,004,006,008,010,012,015,017,020
Acenaphthylene	T207	M105	0.1	mg/kg	U	002,004,006,008,010,012,015,017,020
Acenaphthene	T207	M105	0.1	mg/kg	M	002,004,006,008,010,012,015,017,020
Fluorene	T207	M105	0.1	mg/kg	M	002,004,006,008,010,012,015,017,020
Phenanthrene	T207	M105	0.1	mg/kg	M	002,004,006,008,010,012,015,017,020
Anthracene	T207	M105	0.1	mg/kg	U	002,004,006,008,010,012,015,017,020
Fluoranthene	T207	M105	0.1	mg/kg	M	002,004,006,008,010,012,015,017,020
Pyrene	T207	M105	0.1	mg/kg	M	002,004,006,008,010,012,015,017,020
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	M	002,004,006,008,010,012,015,017,020
Chrysene	T207	M105	0.1	mg/kg	M	002,004,006,008,010,012,015,017,020
Benzo(b)fluoranthene	T207	M105	0.1	mg/kg	M	002,004,006,008,010,012,015,017,020
Benzo(k)fluoranthene	T207	M105	0.1	mg/kg	M	002,004,006,008,010,012,015,017,020
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	M	002,004,006,008,010,012,015,017,020
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	M	002,004,006,008,010,012,015,017,020
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	M	002,004,006,008,010,012,015,017,020
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	M	002,004,006,008,010,012,015,017,020
PAH(total)	T207	M105	0.1	mg/kg	U	002,004,006,008,010,012,015,017,020
Benzene	T209	M105	10	µg/kg	M	002,004,006,008,010,012,015,017,020
Toluene	T209	M105	10	µg/kg	M	002,004,006,008,010,012,015,017,020
EthylBenzene	T209	M105	10	µg/kg	M	002,004,006,008,010,012,015,017,020
Methyl tert-Butyl Ether	T209	M105	10	µg/kg	M	002,004,006,008,010,012,015,017,020
O Xylene	T209	M105	10	µg/kg	M	002,004,006,008,010,012,015,017,020
M/P Xylene	T209	M105	10	µg/kg	M	002,004,006,008,010,012,015,017,020
TPH (C5-C6 aliphatic)	T209	M105	0.100	mg/kg	N	002,004,006,008,010,012,015,017,020
TPH (C6-C8 aliphatic)	T209	M105	0.10	mg/kg	N	002,004,006,008,010,012,015,017,020
TPH (C8-C10 aliphatic)	T209	M105	0.10	mg/kg	N	002,004,006,008,010,012,015,017,020
TPH (C10-C12 aliphatic)	T206	M105	1	mg/kg	N	002,004,006,008,010,012,015,017,020
TPH (C12-C16 aliphatic)	T206	M105	2	mg/kg	M	002,004,006,008,010,012,015,017,020
TPH (C16-C21 aliphatic)	T206	M105	1	mg/kg	M	002,004,006,008,010,012,015,017,020
TPH (C21-C35 aliphatic)	T206	M105	4	mg/kg	M	002,004,006,008,010,012,015,017,020
TPH (C35-C44 aliphatic)	T8	M105	1	mg/kg	N	002,004,006,008,010,012,015,017,020
TPH (Aliphatic) total	T85	M105		mg/kg	N	002,004,006,008,010,012,015,017,020
TPH (C6-C7 aromatic)	T209	M105	0.10	mg/kg	N	002,004,006,008,010,012,015,017,020
TPH (C7-C8 aromatic)	T209	M105	0.10	mg/kg	N	002,004,006,008,010,012,015,017,020
TPH (C8-C10 aromatic)	T209	M105	0.10	mg/kg	N	002,004,006,008,010,012,015,017,020
TPH (C10-C12 aromatic)	T206	M105	1	mg/kg	M	002,004,006,008,010,012,015,017,020
TPH (C12-C16 aromatic)	T206	M105	1	mg/kg	M	002,004,006,008,010,012,015,017,020
TPH (C16-C21 aromatic)	T206	M105	1	mg/kg	M	002,004,006,008,010,012,015,017,020
TPH (C21-C35 aromatic)	T206	M105	1	mg/kg	M	002,004,006,008,010,012,015,017,020
TPH (C35-C44 aromatic)	T8	M105	1	mg/kg	N	002,004,006,008,010,012,015,017,020

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
TPH (Aromatic) total	T85	M105		mg/kg	N	002,004,006,008,010,012,015,017,020
TPH (Aliphatic+Aromatic) (sum)	T85	M105		mg/kg	N	002,004,006,008,010,012,015,017,020
Moisture @ 105 C	T162	AR	0.1	%	N	002,004,006,008,010,012,015,017,020

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Scientific Analysis Laboratories Ltd

Certificate of Analysis

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Report Number: 500238-2

Date of Report: 20-Aug-2015

Customer: Soil Engineering Geoservices Limited
Parkside Lane
Dewsbury Road
Leeds
West Yorkshire.
LS11 5SX

Customer Contact: Mr Jonathan Norton

Customer Job Reference: TC7606
Customer Site Reference: Bay of Nigg Harbour Development Ground Investigation
Date Job Received at SAL: 18-Jun-2015
Date Analysis Started: 11-Aug-2015
Date Analysis Completed: 20-Aug-2015

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
This report should not be reproduced except in full without the written approval of the laboratory
Tests covered by this certificate were conducted in accordance with SAL SOPs
All results have been reviewed in accordance with Section 25 of the SAL Quality Manual

UKAS TESTING 1549

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Report checked and authorised by :
Natasha Wild
Project Manager

Issued by :
Natasha Wild
Project Manager

SAL Reference: 500238
Project Site: Bay of Nigg Harbour Development Ground Investigation
Customer Reference: TC7606

Soil Analysed as Soil
Moisture

SAL Reference	**500238 001**	**500238 002**
Customer Sample Reference	**L2014-TP02-ES-04**	**L2014-TP02-ES-10**
Top Depth	**-1.15**	**-3.05**
Date Sampled	**Deviating**	**Deviating**
Bottom Depth	**1.15**	**3.05**
Type	**Sandy Soil**	**Sandy Soil**

Determinand	Method	Test Sample	LOD	Units		
Moisture @ 105 C	T162	AR	0.1	%	**12**	**11**

SAL Reference: 500238
Project Site: Bay of Nigg Harbour Development Ground Investigation
Customer Reference: TC7606

Soil Analysed as Soil
Miscellaneous

SAL Reference	**500238 001**	**500238 002**
Customer Sample Reference	**L2014-TP02-ES-04**	**L2014-TP02-ES-10**
Top Depth	**-1.15**	**-3.05**
Date Sampled	**Deviating**	**Deviating**
Bottom Depth	**1.15**	**3.05**
Type	**Sandy Soil**	**Sandy Soil**

Determinand	Method	Test Sample	LOD	Units		
Retained on 10mm sieve	T2	M40	0.1	%	<0.1	<0.1
SO4(Total)	T6	M40	0.01	%	**0.07**	**0.07**
Sulphide	T4	AR	10	mg/kg	(13) <10	(13) <10
Sulphur (total)	T6	M40	0.01	%	**0.03**	**0.03**
Vanadium	T6	M40	1	mg/kg	**46**	**39**

SAL Reference: 500238
Project Site: Bay of Nigg Harbour Development Ground Investigation
Customer Reference: TC7606

Soil Analysed as Soil
Suite E

SAL Reference	**500238 001**	**500238 002**
Customer Sample Reference	**L2014-TP02-ES-04**	**L2014-TP02-ES-10**
Top Depth	**-1.15**	**-3.05**
Date Sampled	**Deviating**	**Deviating**
Bottom Depth	**1.15**	**3.05**
Type	**Sandy Soil**	**Sandy Soil**

Determinand	Method	Test Sample	LOD	Units		
Arsenic	T6	M40	2	mg/kg	**8**	**9**
Asbestos ID	T27	AR			N.D.	N.D.
Boron (water-soluble)	T6	AR	1	mg/kg	<1	<1
Cadmium	T6	M40	1	mg/kg	<1	<1
Chromium	T6	M40	1	mg/kg	**26**	**23**
Chromium VI	T6	AR	1	mg/kg	<1	<1
Copper	T6	M40	1	mg/kg	**62**	**52**
Cyanide(Total)	T4	AR	1	mg/kg	<1	<1
Lead	T6	M40	1	mg/kg	**140**	**150**
Mercury	T6	M40	1	mg/kg	<1	<1
Nickel	T6	M40	1	mg/kg	**20**	**17**
pH	T7	AR			**8.3**	**8.4**
Phenols(Mono)	T546	AR	1	mg/kg	<1	<1
Selenium	T6	M40	3	mg/kg	<3	<3
Soil Organic Matter	T287	M40	0.1	%	**4.4**	**3.6**
(Water Soluble) SO4(2:1) expressed as SO4	T242	AR	10	mg/l	**60**	**31**
Zinc	T6	M40	1	mg/kg	**130**	**110**

SAL Reference: 500238
Project Site: Bay of Nigg Harbour Development Ground Investigation
Customer Reference: TC7606

Soil Analysed as Soil
TPH UKCWG

				SAL Reference	**500238 001**	**500238 002**
				Customer Sample Reference	**L2014-TP02-ES-04**	**L2014-TP02-ES-10**
				Top Depth	**-1.15**	**-3.05**
				Date Sampled	**Deviating**	**Deviating**
				Bottom Depth	**1.15**	**3.05**
				Type	**Sandy Soil**	**Sandy Soil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**		
Benzene	T209	AR	10	µg/kg	(13) <10	(13) <10
Toluene	T209	AR	10	µg/kg	(13) <10	(13) <10
EthylBenzene	T209	AR	10	µg/kg	<10	<10
Methyl tert-Butyl Ether	T209	AR	10	µg/kg	<10	<10
O Xylene	T209	AR	10	µg/kg	<10	<10
M/P Xylene	T209	AR	10	µg/kg	<10	<10
TPH (C5-C6 aliphatic)	T209	AR	0.100	mg/kg	<0.100	<0.100
TPH (C6-C8 aliphatic)	T209	AR	0.10	mg/kg	<0.10	<0.10
TPH (C8-C10 aliphatic)	T209	AR	0.10	mg/kg	<0.10	<0.10
TPH (C10-C12 aliphatic)	T206	AR	1	mg/kg	(9) <10	(9) <10
TPH (C12-C16 aliphatic)	T206	AR	2	mg/kg	(9) <10	(9) <10
TPH (C16-C21 aliphatic)	T206	AR	1	mg/kg	**53**	**37**
TPH (C21-C35 aliphatic)	T206	AR	4	mg/kg	**530**	**280**
TPH (C35-C44 aliphatic)	T8	AR	1	mg/kg	**130**	**88**
TPH (Aliphatic) total	T85	AR		mg/kg	**710**	**130**
TPH (C6-C7 aromatic)	T209	AR	0.10	mg/kg	<0.10	<0.10
TPH (C7-C8 aromatic)	T209	AR	0.10	mg/kg	<0.10	<0.10
TPH (C8-C10 aromatic)	T209	AR	0.10	mg/kg	<0.10	<0.10
TPH (C10-C12 aromatic)	T206	AR	1	mg/kg	(9) <10	(9) <10
TPH (C12-C16 aromatic)	T206	AR	1	mg/kg	(9) <10	(9) <10
TPH (C16-C21 aromatic)	T206	AR	1	mg/kg	**110**	**160**
TPH (C21-C35 aromatic)	T206	AR	1	mg/kg	**780**	**610**
TPH (C35-C44 aromatic)	T8	AR	1	mg/kg	**230**	**160**
TPH (Aromatic) total	T85	AR		mg/kg	**1100**	**930**
TPH (Aliphatic+Aromatic) (sum)	T85	AR		mg/kg	**1800**	**1100**

SAL Reference: 500238
Project Site: Bay of Nigg Harbour Development Ground Investigation
Customer Reference: TC7606

Soil Analysed as Soil
PAH US EPA 16 (B and K split)

				SAL Reference	**500238 001**	**500238 002**
				Customer Sample Reference	**L2014-TP02-ES-04**	**L2014-TP02-ES-10**
				Top Depth	**-1.15**	**-3.05**
				Date Sampled	**Deviating**	**Deviating**
				Bottom Depth	**1.15**	**3.05**
				Type	**Sandy Soil**	**Sandy Soil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**		
Naphthalene	T207	M105	0.1	mg/kg	**0.5**	<0.1
Acenaphthylene	T207	M105	0.1	mg/kg	<0.1	<0.1
Acenaphthene	T207	M105	0.1	mg/kg	**0.7**	**0.2**
Fluorene	T207	M105	0.1	mg/kg	**0.7**	**0.1**
Phenanthrene	T207	M105	0.1	mg/kg	**4.8**	**1.5**
Anthracene	T207	M105	0.1	mg/kg	**1.3**	**0.7**
Fluoranthene	T207	M105	0.1	mg/kg	**3.2**	**1.9**
Pyrene	T207	M105	0.1	mg/kg	**2.9**	**1.7**
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	**2.3**	**1.1**
Chrysene	T207	M105	0.1	mg/kg	**2.2**	**1.7**
Benzo(b)fluoranthene	T207	M105	0.1	mg/kg	**1.8**	**1.0**
Benzo(k)fluoranthene	T207	M105	0.1	mg/kg	**1.2**	**0.9**
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	**2.3**	**1.2**
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	**1.6**	**1.0**
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	**0.4**	**0.3**
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	**2.6**	**1.3**
PAH(total)	T207	M105	0.1	mg/kg	**28**	**15**

Index to symbols used in 500238-2

Value	Description
AR	As Received
M40	Analysis conducted on sample assisted dried at no more than 40C. Results are reported on a dry weight basis.
M105	Analysis conducted on an "as received" aliquot. Results are reported on a dry weight basis where moisture content was determined by assisted drying of sample at 105C
N.D.	Not Detected
13	Results have been blank corrected.
9	LOD raised due to dilution of sample
S	Analysis was subcontracted
M	Analysis is MCERTS accredited
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Notes

Asbestos was subcontracted to REC Asbestos
The date of sampling has not been provided and therefore the time from sampling to analysis is unknown. It is possible therefore that the results provided may be compromised.

Method Index

Value	Description
T242	2:1 Extraction/ICP/OES (TRL 447 T1)
T207	GC/MS (MCERTS)
T546	Colorimetry (CF)
T287	Calc TOC/0.58
T206	GC/FID (MCERTS)
T27	PLM
T85	Calc
T209	GC/MS(Head Space)(MCERTS)
T6	ICP/OES
T7	Probe

T162	Grav (1 Dec) (105 C)
T4	Colorimetry
T8	GC/FID
T2	Grav

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Retained on 10mm sieve	T2	M40	0.1	%	N	001-002
SO4(Total)	T6	M40	0.01	%	N	001-002
Sulphide	T4	AR	10	mg/kg	N	001-002
Sulphur (total)	T6	M40	0.01	%	N	001-002
Vanadium	T6	M40	1	mg/kg	M	001-002
Arsenic	T6	M40	2	mg/kg	M	001-002
Asbestos ID	T27	AR			SU	001-002
Boron (water-soluble)	T6	AR	1	mg/kg	N	001-002
Cadmium	T6	M40	1	mg/kg	M	001-002
Chromium	T6	M40	1	mg/kg	M	001-002
Chromium VI	T6	AR	1	mg/kg	N	001-002
Copper	T6	M40	1	mg/kg	M	001-002
Cyanide(Total)	T4	AR	1	mg/kg	M	001-002
Lead	T6	M40	1	mg/kg	M	001-002
Mercury	T6	M40	1	mg/kg	M	001-002
Nickel	T6	M40	1	mg/kg	M	001-002
pH	T7	AR			M	001-002
Phenols(Mono)	T546	AR	1	mg/kg	M	001-002
Selenium	T6	M40	3	mg/kg	M	001-002
Soil Organic Matter	T287	M40	0.1	%	N	001-002
(Water Soluble) SO4(2:1) expressed as SO4	T242	AR	10	mg/l	N	001-002
Zinc	T6	M40	1	mg/kg	M	001-002
Naphthalene	T207	M105	0.1	mg/kg	M	001-002
Acenaphthylene	T207	M105	0.1	mg/kg	U	001-002
Acenaphthene	T207	M105	0.1	mg/kg	M	001-002
Fluorene	T207	M105	0.1	mg/kg	M	001-002
Phenanthrene	T207	M105	0.1	mg/kg	M	001-002
Anthracene	T207	M105	0.1	mg/kg	U	001-002
Fluoranthene	T207	M105	0.1	mg/kg	M	001-002
Pyrene	T207	M105	0.1	mg/kg	M	001-002
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	M	001-002
Chrysene	T207	M105	0.1	mg/kg	M	001-002
Benzo(b)fluoranthene	T207	M105	0.1	mg/kg	M	001-002
Benzo(k)fluoranthene	T207	M105	0.1	mg/kg	M	001-002
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	M	001-002
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	M	001-002
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	M	001-002
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	M	001-002
PAH(total)	T207	M105	0.1	mg/kg	U	001-002
Benzene	T209	AR	10	µg/kg	M	001-002
Toluene	T209	AR	10	µg/kg	M	001-002
EthylBenzene	T209	AR	10	µg/kg	M	001-002
Methyl tert-Butyl Ether	T209	AR	10	µg/kg	M	001-002
O Xylene	T209	AR	10	µg/kg	M	001-002
M/P Xylene	T209	AR	10	µg/kg	M	001-002
TPH (C5-C6 aliphatic)	T209	AR	0.100	mg/kg	N	001-002
TPH (C6-C8 aliphatic)	T209	AR	0.10	mg/kg	N	001-002
TPH (C8-C10 aliphatic)	T209	AR	0.10	mg/kg	N	001-002
TPH (C10-C12 aliphatic)	T206	AR	1	mg/kg	N	001-002
TPH (C12-C16 aliphatic)	T206	AR	2	mg/kg	M	001-002
TPH (C16-C21 aliphatic)	T206	AR	1	mg/kg	M	001-002
TPH (C21-C35 aliphatic)	T206	AR	4	mg/kg	M	001-002
TPH (C35-C44 aliphatic)	T8	AR	1	mg/kg	N	001-002
TPH (Aliphatic) total	T85	AR		mg/kg	N	001-002
TPH (C6-C7 aromatic)	T209	AR	0.10	mg/kg	N	001-002
TPH (C7-C8 aromatic)	T209	AR	0.10	mg/kg	N	001-002
TPH (C8-C10 aromatic)	T209	AR	0.10	mg/kg	N	001-002
TPH (C10-C12 aromatic)	T206	AR	1	mg/kg	M	001-002
TPH (C12-C16 aromatic)	T206	AR	1	mg/kg	M	001-002
TPH (C16-C21 aromatic)	T206	AR	1	mg/kg	M	001-002
TPH (C21-C35 aromatic)	T206	AR	1	mg/kg	M	001-002
TPH (C35-C44 aromatic)	T8	AR	1	mg/kg	N	001-002

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
TPH (Aromatic) total	T85	AR		mg/kg	N	001-002
TPH (Aliphatic+Aromatic) (sum)	T85	AR		mg/kg	N	001-002
Moisture @ 105 C	T162	AR	0.1	%	N	001-002

Hadfield House
Hadfield Street
Cornbrook
Manchester
M16 9FE
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Scientific Analysis Laboratories Ltd

Certificate of Analysis

Scientific Analysis Laboratories is a limited company registered in England and Wales (No 2514788) whose address is at Hadfield House, Hadfield Street, Manchester M16 9FE

Report Number: 517853-2

Date of Report: 03-Nov-2015

Customer: Soil Engineering Geoservices Limited
Parkside Lane
Dewsbury Road
Leeds
West Yorkshire.
LS11 5SX

Customer Contact: Mr Malcolm Townsley

Customer Job Reference: TC7606
Customer Site Reference: Nigg Bay
Date Job Received at SAL: 08-Oct-2015
Date Analysis Started: 28-Oct-2015
Date Analysis Completed: 03-Nov-2015

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
This report should not be reproduced except in full without the written approval of the laboratory
Tests covered by this certificate were conducted in accordance with SAL SOPs
All results have been reviewed in accordance with Section 25 of the SAL Quality Manual

UKAS TESTING
1549

Report checked and authorised by :
Natasha Wild
Project Manager

Issued by :
Natasha Wild
Project Manager

SAL Reference: 517853
Project Site: Nigg Bay
Customer Reference: TC7606

Water Analysed as Water
Miscellaneous

	SAL Reference	517853 001	517853 002	517853 003
	Customer Sample Reference	L2014-5W EW	L2014-7W EW	L2014-24W EW
	Date Sampled	30-SEP-2015	06-OCT-2015	05-OCT-2015

Determinand	Method	Test Sample	LOD	Units			
Total Dissolved Solids	T2	AR	100	mg/l	**1500**	**1900**	**1800**

SAL Reference: 517853
Project Site: Nigg Bay
Customer Reference: TC7606

Water Analysed as Water
Water suite

	SAL Reference	517853 001	517853 002	517853 003
	Customer Sample Reference	L2014-5W EW	L2014-7W EW	L2014-24W EW
	Date Sampled	30-SEP-2015	06-OCT-2015	05-OCT-2015

Determinand	Method	Test Sample	LOD	Units			
Alkalinity expressed as CaCO3	T22	AR	10	mg/l	**370**	**540**	**160**
Aluminium	T6	AR	0.02	mg/l	<0.02	<0.02	<0.02
Ammonia expressed as NH4	T686	AR	0.05	mg/l	<0.05	**0.91**	**0.07**
Calcium	T6	AR	0.1	mg/l	**190**	**190**	**190**
Chloride	T686	AR	1	mg/l	**430**	**640**	**560**
Colour	T4	AR	5	Hazen	<5	**9**	<5
Copper	T6	AR	0.01	mg/l	<0.01	**0.01**	<0.01
Dry Residue	T2	AR	10	mg/l	**1492**	**1965**	**1875**
Electrical Conductivity	T7	AR	10	µS/cm	**2100**	**3200**	**2200**
Faecal coliforms	T34	AR	1	cfu/100ml	<1	<1	<1
Fluoride	T686	AR	0.05	mg/l	**0.18**	<0.05	<0.05
Hardness expressed as CaCO3	T6	AR	10	mg/l	**790**	**870**	**840**
Iron	T6	AR	0.01	mg/l	<0.01	<0.01	<0.01
Lead	T6	AR	0.03	mg/l	<0.03	<0.03	<0.03
Magnesium	T6	AR	0.1	mg/l	**74**	**95**	**88**
Manganese	T6	AR	0.01	mg/l	**3.0**	**6.8**	**0.01**
Nitrate	T686	AR	0.5	mg/l	<0.5	<0.5	<0.5
Nitrite	T686	AR	0.1	mg/l	<0.1	<0.1	<0.1
Oxidisability	T4	AR	5	mg/l	**48**	**67**	**14**
pH	T7	AR			**7.3**	**6.4**	**8.1**
Potassium	T6	AR	0.1	mg/l	**15**	**41**	**18**
Sodium	T6	AR	0.1	mg/l	**140**	**300**	**98**
Sulphate	T686	AR	0.5	mg/l	**33**	**38**	**50**
Total coliforms	T34	AR	1	cfu/100ml	<1	<1	**4**
Total Petroleum Hydrocarbons	T81	AR	0.01	mg/l	**0.11**	**0.25**	<0.01
TVC at 37 C	T34	AR	10	cfu/ml	<10	<10	<10
Turbidity	T4	AR	1	NTUs	**7**	**3**	**2**
Zinc	T6	AR	0.01	mg/l	<0.01	**0.03**	<0.01

Index to symbols used in 517853-2

Value	Description
AR	As Received
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Notes

Microbiological analysis was transferred to SAL Northern Ireland.

Method Index

Value	Description
T7	Probe
T81	GC/FID (LV)
T2	Grav
T4	Colorimetry
T6	ICP/OES
T686	Discrete Analyser
T22	Titration
T34	Micro

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Total Dissolved Solids	T2	AR	100	mg/l	N	001-003
Alkalinity expressed as CaCO3	T22	AR	10	mg/l	N	001-003
Aluminium	T6	AR	0.02	mg/l	U	001-003
Ammonia expressed as NH4	T686	AR	0.05	mg/l	U	001-003
Calcium	T6	AR	0.1	mg/l	N	001-003
Chloride	T686	AR	1	mg/l	U	001-003
Colour	T4	AR	5	Hazen	N	001-003
Copper	T6	AR	0.01	mg/l	U	001-003
Dry Residue	T2	AR	10	mg/l	N	001-003
Electrical Conductivity	T7	AR	10	µS/cm	N	001-003
Faecal coliforms	T34	AR	1	cfu/100ml	N	001-003
Fluoride	T686	AR	0.05	mg/l	U	001-003
Hardness expressed as CaCO3	T6	AR	10	mg/l	N	001-003
Iron	T6	AR	0.01	mg/l	U	001-003
Lead	T6	AR	0.03	mg/l	U	001-003
Magnesium	T6	AR	0.1	mg/l	N	001-003
Manganese	T6	AR	0.01	mg/l	U	001-003
Nitrate	T686	AR	0.5	mg/l	U	001-003
Nitrite	T686	AR	0.1	mg/l	U	001-003
Oxidisability	T4	AR	5	mg/l	N	001-003
pH	T7	AR			U	001-003
Potassium	T6	AR	0.1	mg/l	N	001-003
Sodium	T6	AR	0.1	mg/l	N	001-003
Sulphate	T686	AR	0.5	mg/l	U	001-003
Total coliforms	T34	AR	1	cfu/100ml	N	001-003
Total Petroleum Hydrocarbons	T81	AR	0.01	mg/l	U	001-003
TVC at 37 C	T34	AR	10	cfu/ml	N	001-003
Turbidity	T4	AR	1	NTUs	N	001-003
Zinc	T6	AR	0.01	mg/l	U	001-003

SCIENTIFIC ANALYSIS LABORATORIES
DELIVERING SCIENCE

Scientific Analysis Laboratories is a limited company registered in England and Wales (No 2514788) whose address is at Hadfield House, Hadfield Street, Manchester M16 9FE

Scientific Analysis Laboratories Ltd

Certificate of Analysis

16 Langlands Place
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G75 0YF
Tel : 01355 573340
Fax : 01355 573341

Report Number: 597230-1

Date of Report: 08-Sep-2016

Customer: Envirosurveying
The Willows
Frain Drive
Laurencekirk
Aberdeenshire
AB30 1HJ

Customer Contact: Ms Fiona Moore

Customer Job Reference: ESL1660-PO1
Customer Purchase Order: ESL1660-PO1
Customer Site Reference: Nigg Bay
Date Job Received at SAL: 01-Sep-2016
Date Analysis Started: 02-Sep-2016
Date Analysis Completed: 08-Sep-2016

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
This report should not be reproduced except in full without the written approval of the laboratory
Tests covered by this certificate were conducted in accordance with SAL SOPs
All results have been reviewed in accordance with Section 25 of the SAL Quality Manual

UKAS TESTING
1549

Report checked and authorised by :
Kimberley Macmaster
Customer Relations Manager

Issued by :
Kimberley Macmaster
Customer Relations Manager

SAL Reference: 597230
Project Site: Nigg Bay
Customer Reference: ESL1660-PO1

Water Analysed as Water
Miscellaneous

SAL Reference	**597230 001**	**597230 002**
Customer Sample Reference	**BH19A**	**BH20**
Date Sampled	**29-AUG-2016**	**29-AUG-2016**

Determinand	Method	Test Sample	LOD	Units		
Hardness (Calcium as CaCO3)	T82	AR	10	mg/l	**400**	**200**

SAL Reference: 597230
Project Site: Nigg Bay
Customer Reference: ESL1660-PO1

Water Analysed as Water
Metals Suite

SAL Reference	**597230 001**	**597230 002**
Customer Sample Reference	**BH19A**	**BH20**
Date Sampled	**29-AUG-2016**	**29-AUG-2016**

Determinand	Method	Test Sample	LOD	Units		
As (Total)	T301	AR	0.2	µg/l	**0.9**	**1.5**
Cd (Total)	T301	AR	0.02	µg/l	**0.06**	**0.03**
Cr (Total)	T301	AR	1	µg/l	<1	<1
Cu (Total)	T301	AR	0.5	µg/l	**1.9**	**1.9**
Pb (Total)	T301	AR	0.3	µg/l	<0.3	<0.3
Hg (Total)	T301	AR	0.05	µg/l	**0.09**	<0.05
Ni (Total)	T301	AR	1	µg/l	**3**	**1**
Se (Total)	T301	AR	0.5	µg/l	**16**	**1.0**
Zn (Total)	T301	AR	2	µg/l	<2	<2

SAL Reference: 597230
Project Site: Nigg Bay
Customer Reference: ESL1660-PO1

Water Analysed as Water
PAH US EPA 16 (B and K split)

				SAL Reference	**597230 001**	**597230 002**
				Customer Sample Reference	**BH19A**	**BH20**
				Date Sampled	**29-AUG-2016**	**29-AUG-2016**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**		
Naphthalene	T149	AR	0.01	µg/l	(13) **0.04**	(13) **0.04**
Acenaphthylene	T149	AR	0.01	µg/l	<0.01	<0.01
Acenaphthene	T149	AR	0.01	µg/l	**0.01**	**0.01**
Fluorene	T149	AR	0.01	µg/l	**0.01**	**0.01**
Phenanthrene	T149	AR	0.01	µg/l	(13) <0.01	(13) <0.01
Anthracene	T149	AR	0.01	µg/l	<0.01	<0.01
Fluoranthene	T149	AR	0.01	µg/l	(13) <0.01	(13) <0.01
Pyrene	T149	AR	0.01	µg/l	<0.01	<0.01
Benzo(a)Anthracene	T149	AR	0.01	µg/l	<0.01	<0.01
Chrysene	T149	AR	0.01	µg/l	<0.01	<0.01
Benzo(b)fluoranthene	T149	AR	0.01	µg/l	<0.01	<0.01
Benzo(k)fluoranthene	T149	AR	0.01	µg/l	<0.01	<0.01
Benzo(a)Pyrene	T149	AR	0.01	µg/l	<0.01	<0.01
Indeno(123-cd)Pyrene	T149	AR	0.01	µg/l	<0.01	<0.01
Dibenzo(ah)Anthracene	T149	AR	0.01	µg/l	<0.01	<0.01
Benzo(ghi)Perylene	T149	AR	0.01	µg/l	<0.01	<0.01
PAH(total)	T149	AR	0.01	µg/l	**0.06**	**0.06**

SAL Reference: 597230
Project Site: Nigg Bay
Customer Reference: ESL1660-PO1

Water Analysed as Water
TPH (CWG)

SAL Reference	**597230 001**	**597230 002**
Customer Sample Reference	**BH19A**	**BH20**
Date Sampled	**29-AUG-2016**	**29-AUG-2016**

Determinand	Method	Test Sample	LOD	Units		
TPH (C5-C6 aliphatic)	T215	AR	10	µg/l	<10	<10
TPH (C6-C8 aliphatic)	T215	AR	10	µg/l	<10	<10
TPH (C8-C10 aliphatic)	T215	AR	10	µg/l	<10	<10
TPH DW(C10-C12 aliphatic)	T81	AR	0.01	mg/l	<0.01	<0.01
TPH DW(C12-C16 aliphatic)	T81	AR	0.01	mg/l	<0.01	<0.01
TPH DW(C16-C21 aliphatic)	T81	AR	0.01	mg/l	<0.01	<0.01
TPH DW(C21-C35 aliphatic)	T81	AR	0.01	mg/l	(13) <0.01	(13) <0.01
TPH (C6-C7 aromatic)	T215	AR	10	µg/l	<10	<10
TPH (C7-C8 aromatic)	T215	AR	10	µg/l	<10	<10
TPH (C8-C10 aromatic)	T215	AR	10	µg/l	<10	<10
TPH DW(C10-C12 aromatic)	T81	AR	0.01	mg/l	<0.01	<0.01
TPH DW(C12-C16 aromatic)	T81	AR	0.01	mg/l	<0.01	<0.01
TPH DW(C16-C21 aromatic)	T81	AR	0.01	mg/l	<0.01	<0.01
TPH DW(C21-C35 aromatic)	T81	AR	0.01	mg/l	<0.01	<0.01

Index to symbols used in 597230-1

Value	Description
AR	As Received
13	Results have been blank corrected.
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Notes

TPH, PAH: These samples have been analysed exceeding recommended holding times. It is possible therefore that the results provided may be compromised.

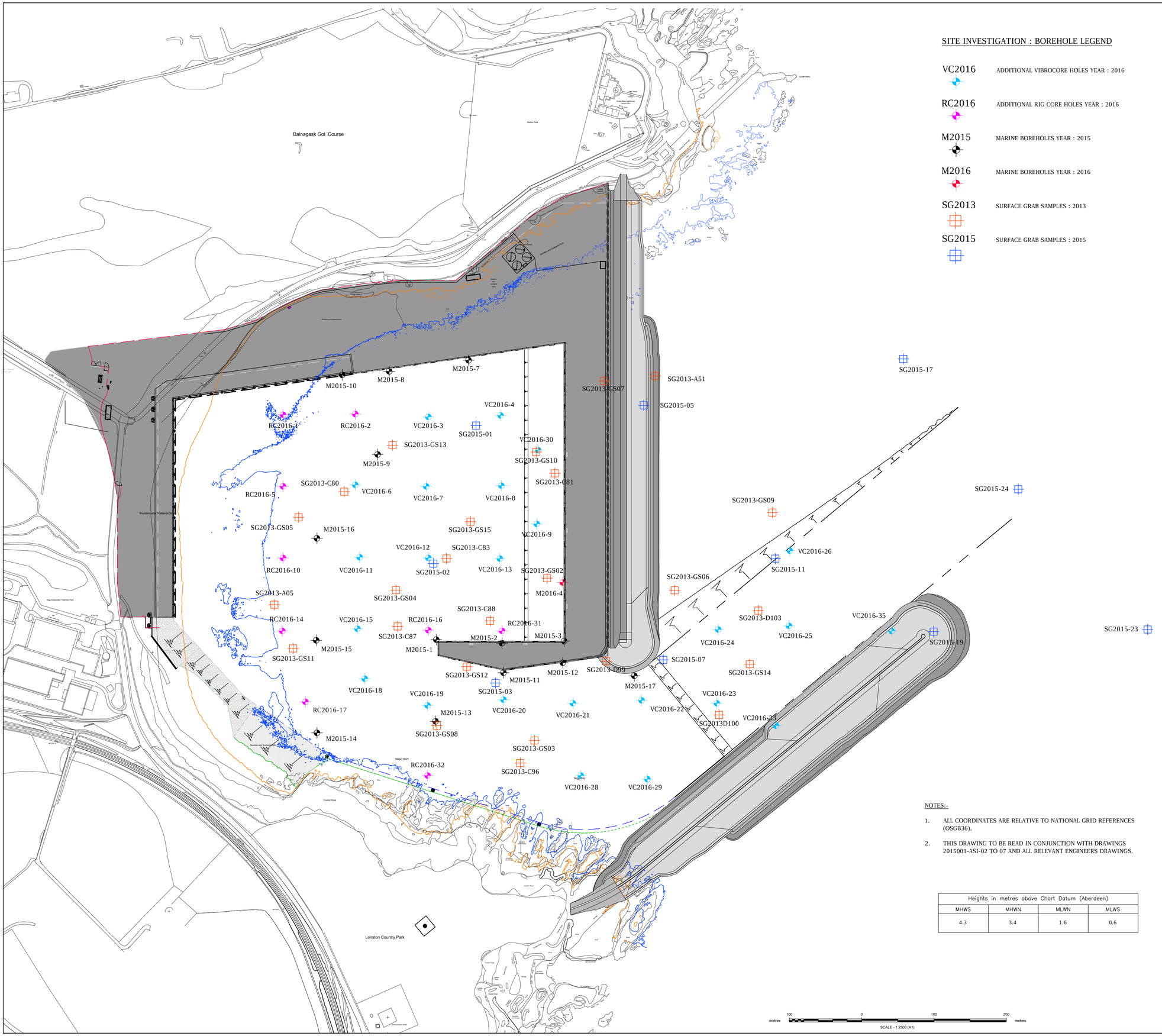
Method Index

Value	Description
T215	GC/MS (Headspace)(LV)
T149	GC/MS (SIR)
T81	GC/FID (LV)
T301	ICP/MS (Total)
T82	ICP/OES (Sim)

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Hardness (Calcium as CaCO3)	T82	AR	10	mg/l	N	001-002
As (Total)	T301	AR	0.2	µg/l	U	001-002
Cd (Total)	T301	AR	0.02	µg/l	U	001-002
Cr (Total)	T301	AR	1	µg/l	U	001-002
Cu (Total)	T301	AR	0.5	µg/l	U	001-002
Pb (Total)	T301	AR	0.3	µg/l	U	001-002
Hg (Total)	T301	AR	0.05	µg/l	U	001-002
Ni (Total)	T301	AR	1	µg/l	U	001-002
Se (Total)	T301	AR	0.5	µg/l	U	001-002
Zn (Total)	T301	AR	2	µg/l	U	001-002
Naphthalene	T149	AR	0.01	µg/l	U	001-002
Acenaphthylene	T149	AR	0.01	µg/l	U	001-002
Acenaphthene	T149	AR	0.01	µg/l	U	001-002
Fluorene	T149	AR	0.01	µg/l	U	001-002
Phenanthrene	T149	AR	0.01	µg/l	U	001-002
Anthracene	T149	AR	0.01	µg/l	U	001-002
Fluoranthene	T149	AR	0.01	µg/l	U	001-002
Pyrene	T149	AR	0.01	µg/l	U	001-002
Benzo(a)Anthracene	T149	AR	0.01	µg/l	U	001-002
Chrysene	T149	AR	0.01	µg/l	U	001-002
Benzo(b)fluoranthene	T149	AR	0.01	µg/l	U	001-002
Benzo(k)fluoranthene	T149	AR	0.01	µg/l	U	001-002
Benzo(a)Pyrene	T149	AR	0.01	µg/l	U	001-002
Indeno(123-cd)Pyrene	T149	AR	0.01	µg/l	U	001-002
Dibenzo(ah)Anthracene	T149	AR	0.01	µg/l	U	001-002
Benzo(ghi)Perylene	T149	AR	0.01	µg/l	U	001-002
PAH(total)	T149	AR	0.01	µg/l	U	001-002
TPH (C5-C6 aliphatic)	T215	AR	10	µg/l	N	001-002
TPH (C6-C8 aliphatic)	T215	AR	10	µg/l	N	001-002
TPH (C8-C10 aliphatic)	T215	AR	10	µg/l	N	001-002
TPH DW(C10-C12 aliphatic)	T81	AR	0.01	mg/l	N	001-002
TPH DW(C12-C16 aliphatic)	T81	AR	0.01	mg/l	N	001-002
TPH DW(C16-C21 aliphatic)	T81	AR	0.01	mg/l	N	001-002
TPH DW(C21-C35 aliphatic)	T81	AR	0.01	mg/l	N	001-002
TPH (C6-C7 aromatic)	T215	AR	10	µg/l	N	001-002
TPH (C7-C8 aromatic)	T215	AR	10	µg/l	N	001-002
TPH (C8-C10 aromatic)	T215	AR	10	µg/l	N	001-002
TPH DW(C10-C12 aromatic)	T81	AR	0.01	mg/l	N	001-002
TPH DW(C12-C16 aromatic)	T81	AR	0.01	mg/l	N	001-002
TPH DW(C16-C21 aromatic)	T81	AR	0.01	mg/l	N	001-002
TPH DW(C21-C35 aromatic)	T81	AR	0.01	mg/l	N	001-002

APPENDIX C- Over-water/marine coring location plan



SITE INVESTIGATION : BOREHOLE LEGEND

VC2016	ADDITIONAL VIBROCORE HOLES YEAR : 2016
RC2016	ADDITIONAL RIG CORE HOLES YEAR : 2016
M2015	MARINE BOREHOLES YEAR : 2015
M2016	MARINE BOREHOLES YEAR : 2016
SG2013	SURFACE GRAB SAMPLES : 2013
SG2015	SURFACE GRAB SAMPLES : 2015

RIG CORE & VIBROCORE BOREHOLE CO-ORDINATES

BOREHOLE No.	NATIONAL GRID CO-ORDINATES (OSGB36) EASTING	NORTHING	SURFACE LEVEL (m : A.C.D)	PROPOSED DREDGE LVL
RC2016-1	396700.000	804899.000	+0.36	-9.00
RC2016-2	396800.000	804900.000	-3.40	-9.00
RC2016-5	396700.000	804800.000	-0.70	-9.00
RC2016-10	396700.000	804701.000	-0.70	-9.00
RC2016-14	396699.000	804600.000	-0.10	-9.00
RC2016-16	396901.000	804601.000	-3.70	-9.00
RC2016-17	396731.000	804502.000	-0.75	-9.00
RC2016-31	397003.000	804600.000	-4.63	-9.00
RC2016-32	396900.000	804400.000	-1.19	-9.00
VC2016-3	396901.000	804896.000	-3.30	-9.00
VC2016-4	397001.000	804898.000	-5.75	-9.00
VC2016-6	396800.000	804802.000	-2.84	-9.00
VC2016-7	396898.000	804800.000	-3.30	-9.00
VC2016-8	397002.000	804801.000	-5.40	-9.00
VC2016-9	397051.000	804748.000	-5.08	-10.50
VC2016-11	396806.000	804702.000	-2.09	-9.00
VC2016-12	396901.000	804701.000	-3.75	-9.00
VC2016-13	397000.000	804700.000	-5.25	-9.00
VC2016-15	396803.000	804603.000	-2.14	-9.00
VC2016-18	396813.000	804534.000	-1.78	-9.00
VC2016-19	396900.000	804497.000	-2.70	-9.00
VC2016-20	397005.000	804505.000	-4.46	-9.00
VC2016-21	397101.000	804500.000	-5.90	-9.00
VC2016-22	397196.000	804504.000	-7.39	-9.00
VC2016-23	397300.000	804500.000	-8.80	-10.50
VC2016-24	397302.000	804602.000	-7.71	-10.50
VC2016-25	397400.000	804607.000	-9.20	-10.50
VC2016-26	397401.000	804711.000	-8.59	-10.50
VC2016-28	397112.000	804400.000	-5.54	-9.00
VC2016-29	397204.000	804395.000	-7.87	-9.00
VC2016-30	397053.000	804850.000	-4.97	-10.50
VC2016-33	397382.000	804469.000	-10.21	-14.00
VC2016-35	397542.000	804600.000	-11.40	-14.00

MARINE BOREHOLE CO-ORDINATES

BOREHOLE No.	NATIONAL GRID CO-ORDINATES (OSGB36) EASTING	NORTHING	SURFACE LEVEL (m : A.C.D)
M2015-1&1A	396912.000	804588.000	-4.20
M2015-2	397003.000	804583.000	-5.06
M2015-3	397089.000	804586.000	-6.10
M2015-7	396957.000	804974.000	-3.97
M2015-8	396847.000	804959.000	-1.27
M2015-9	396831.000	804844.000	-2.78
M2015-10	396782.000	804954.000	-1.07
M2015-11	397005.000	804542.000	-5.00
M2015-12&12A	397087.000	804556.000	-5.95
M2015-13	396911.000	804475.000	-3.10
M2015-14	396747.000	804459.000	-0.20
M2015-15	396746.000	804587.000	-0.70
M2015-16	396747.000	804728.000	-0.95
M2015-17	397186.000	804538.000	-7.35
M2016-4	397087.000	804667.000	-6.15

NOTES:-

1. ALL COORDINATES ARE RELATIVE TO NATIONAL GRID REFERENCES (OSGB36).
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWINGS 2015001-ASI-02 TO 07 AND ALL RELEVANT ENGINEERS DRAWINGS.

Heights in metres above Chart Datum (Aberdeen)

MHWS	MHWN	MLWN	MLWS
4.3	3.4	1.6	0.6

metres 100 0 100 200 metres

SCALE - 1:2500 (A1)

Rev:	Date:	Revision:	By:
E	21.04.16	GRAB SAMPLE LOCATIONS ADDED.	JW
D	05.04.16	AS BUILT	JW

Aberdeen Harbour

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16 Regent Quay
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Title: ADDITIONAL SITE INVESTIGATION HOLES 2016 - AS BUILT

Date: EB 16	Designed by:	Drawing Number:
	Drawn by: JW	2015001-ASI-01
Scale(s): 1:2500	Checked by: KH	
	Approved by: KY	

APPENDIX D- Gas monitoring data sheets

Date	09/08/2016												
Location	BH4	BH6	BH8	BH13	BH18	BH19	BH20	BH27	BH28	BH29	BH30	ACC1	ACC2
Water level (m)	3.43	dry	-	3.40	2.08	3.18	3.27	8.02	12.66	5.08	3.79	17.12	4.71
Atmospheric Presure (mb)	1021	2021	-	1020	1020	1021	1021	1021	1021	1021	1021	1021	1021
Air Temperature (^{O}C)	11.2	11.9	-	12.3	12.0	11.6	11.6	12.4	12.6	11.9	12.3	11.4	12.1
H_2S (%) Steady State	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CO (%) Steady State	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Differential Pressure (Pa)	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CH_4 Flow (litres/hour)	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CO_2 Flow (litres/hour)	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Flow (litres/hour)	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CH_4 (%) Peak	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CO_2 (%) Peak	0.3	<0.1	-	2.1	4.7	0.9	<0.1	3.5	<0.1	0.2	<0.1	<0.1	<0.1
O_2 (%) Peak	19.5	20.8	-	17.9	18.2	18.8	21.0	12.8	21.0	20.1	20.8	20.7	20.7
CH_4 (%) Steady State	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CO_2 (%) Steady State	0.3	<0.1	-	2.1	4.7	0.9	<0.1	3.5	<0.1	0.2	<0.1	<0.1	<0.1
O_2 (%) Steady State	19.5	20.8	-	17.9	18.2	18.8	21.0	12.8	21.0	20.1	20.8	20.7	20.7

Date	15/08/2016												
Location	BH4	BH6	BH8	BH13	BH18	BH19	BH20	BH27	BH28	BH29	BH30	ACC1	ACC2
Water level (m)	3.45	dry	-	3.43	2.03	3.20	3.27	8.03	12.69	5.08	3.80	17.17	4.72
Atmospheric Presure (mb)	1022	1022	-	1022	1022	1022	1022	1022	1022	1022	1022	1022	1022
Air Temperature (^{O}C)	17.3	17.7	-	17.1	17.3	17.3	17.4	17.7	17.2	17.0	17.4	17.1	16.8
H_2S (%) Steady State	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CO (%) Steady State	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Differential Pressure (Pa)	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CH_4 Flow (litres/hour)	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CO_2 Flow (litres/hour)	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Flow (litres/hour)	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CH_4 (%) Peak	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CO_2 (%) Peak	0.1	<0.1	-	0.8	1.5	1.1	<0.1	0.3	<0.1	0.4	<0.1	<0.1	<0.1
O_2 (%) Peak	20.2	20.8	-	19.4	19.1	18.5	20.8	20.3	20.7	19.9	20.7	20.7	20.7
CH_4 (%) Steady State	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CO_2 (%) Steady State	0.1	<0.1	-	0.8	1.5	1.1	<0.1	0.3	<0.1	0.4	<0.1	<0.1	<0.1
O_2 (%) Steady State	20.2	20.8	-	19.4	19.1	18.5	20.8	20.3	20.7	19.9	20.7	20.7	20.7

Date	20/08/2016												
Location	BH4	BH6	BH8	BH13	BH18	BH19	BH20	BH27	BH28	BH29	BH30	ACC1	ACC2
Water level (m)	3.46	dry	-	3.50	2.00	3.22	3.30	8.02	12.01	5.08	3.83	17.16	4.75
Atmospheric Presure (mb)	997	997	-	997	997	997	997	997	997	997	997	997	997
Air Temperature (^{O}C)	15.3	15.0	-	15.8	14.9	15.2	14.6	16.1	15.4	15.8	15.1	15.0	14.7
H_2S (%) Steady State	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CO (%) Steady State	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Differential Pressure (Pa)	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CH_4 Flow (litres/hour)	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CO_2 Flow (litres/hour)	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Flow (litres/hour)	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CH_4 (%) Peak	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CO_2 (%) Peak	0.2	<0.1	-	2.5	6.2	1.2	<0.1	0.7	2.6	1.1	<0.1	<0.1	<0.1
O_2 (%) Peak	20.2	20.8	-	17.0	16.1	18.3	20.8	18.9	18.4	19.3	20.8	20.7	20.7
CH_4 (%) Steady State	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CO_2 (%) Steady State	0.2	<0.1	-	2.5	6.2	1.2	<0.1	0.7	2.6	1.1	<0.1	<0.1	<0.1
O_2 (%) Steady State	20.2	21.8	-	17.0	16.1	18.3	20.8	18.9	18.4	19.3	20.8	20.7	20.7

Date	27/08/2016												
Location	BH4	BH6	BH8	BH13	BH18	BH19	BH20	BH27	BH28	BH29	BH30	ACC1	ACC2
Water level (m)	3.47	dry	-	3.53	2.01	3.23	3.28	8.01	12.04	5.09	3.83	17.36	4.79
Atmospheric Presure (mb)	1018	1018	-	1019	1019	1018	2018	1019	1019	1019	1018	1019	1019
Air Temperature (^{O}C)	17.2	16.4	-	17.3	16.2	16.0	15.7	16.3	15.4	17.3	16.2	16.7	17.0
H_2S (%) Steady State	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CO (%) Steady State	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Differential Pressure (Pa)	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CH_4 Flow (litres/hour)	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CO_2 Flow (litres/hour)	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Flow (litres/hour)	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CH_4 (%) Peak	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CO_2 (%) Peak	0.1	<0.1	-	1.1	7.3	2.0	<0.1	<0.1	2.2	1.0	<0.1	<0.1	2.0
O_2 (%) Peak	20.0	20.6	-	19.5	15.8	17.1	20.7	20.9	18.7	19.7	20.8	20.8	18.6
CH_4 (%) Steady State	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CO_2 (%) Steady State	0.1	<0.1	-	1.1	7.3	2.0	<0.1	<0.1	2.2	1.0	<0.1	<0.1	2.0
O_2 (%) Steady State	20.0	20.6	-	19.5	15.8	17.1	20.7	20.9	18.7	19.7	20.8	20.8	18.6

Date	03/09/2016												
Location	BH4	BH6	BH8	BH13	BH18	BH19	BH20	BH27	BH28	BH29	BH30	ACC1	ACC2
Water level (m)	2.59	dry	-	3.55	2.03	3.38	3.42	8.03	12.83	5.14	3.83	17.40	4.79
Atmospheric Presure (mb)	1008	1008	-	1008	1008	1008	1008	1008	1008	1008	1008	1008	1008
Air Temperature (^{O}C)	13.7	14.2	-	14.9	14.0	15.3	13.8	15.4	15.0	14.3	15.0	14.5	15.2
H_2S (%) Steady State	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CO (%) Steady State	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Differential Pressure (Pa)	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CH_4 Flow (litres/hour)	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CO_2 Flow (litres/hour)	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Flow (litres/hour)	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CH_4 (%) Peak	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CO_2 (%) Peak	0.1	<0.1	-	0.8	2.1	0.5	<0.1	<0.1	1.4	0.7	<0.1	<0.1	0.5
O_2 (%) Peak	20.2	20.8	-	18.3	19.8	20.0	20.7	20.6	18.9	19.8	20.8	20.7	20.1
CH_4 (%) Steady State	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CO_2 (%) Steady State	0.1	<0.1	-	0.8	2.1	0.5	<0.1	<0.1	1.4	0.7	<0.1	<0.1	0.5
O_2 (%) Steady State	20.2	20.8	-	18.3	19.8	20.0	20.7	20.6	18.9	19.8	20.8	20.7	20.1

Date	13/09/2016												
Location	BH4	BH6	BH8	BH13	BH18	BH19	BH20	BH27	BH28	BH29	BH30	ACC1	ACC2
Water level (m)	2.62	dry	-	3.55	2.04	2.41	2.47	7.56	12.07	5.16	3.81	17.41	4.79
Atmospheric Presure (mb)	1014	1014	-	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014
Air Temperature (^{O}C)	16.2	14.7	-	15.6	16.0	15.7	16.1	16.4	15.2	15.2	15.8	16.0	15.5
H_2S (%) Steady State	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CO (%) Steady State	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Differential Pressure (Pa)	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CH_4 Flow (litres/hour)	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CO_2 Flow (litres/hour)	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Flow (litres/hour)	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CH_4 (%) Peak	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CO_2 (%) Peak	0.3	0.2	-	1.4	1.8	0.9	<0.1	0.1	2.4	0.9	0.1	<0.1	2.1
O_2 (%) Peak	20.0	20.4	-	19.5	20.5	20.0	20.6	20.7	18.5	19.7	20.5	20.7	18.8
CH_4 (%) Steady State	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
CO_2 (%) Steady State	0.3	0.2	-	1.4	1.8	0.3	<0.1	0.1	2.4	0.9	0.1	<0.1	2.1
O_2 (%) Steady State	20.0	20.4	-	19.5	20.5	20.0	20.6	20.7	18.5	19.7	20.5	20.7	18.8

Water Monitoring (29/08/16)

Location	BH6	BH8	BH19	BH20
pH	n/a	-	7.07	7.25
Temperature (^{O}C)	n/a	-	10.5	10.9
Conductivity (µS/cm-1)	n/a	-	1006	567
Disolved Oxygen (%)	n/a	-	14.3	8.9

Note* BH6 dry, BH8 unavailable (cannot access).

TEST DATE AND CONDITIONS	
Date	23/03/2016
Atmospheric Pressure	1001 mB
Ambient Temp	23.0 ^{0}C
Environics Serial No.	n/a

GAS DATA LTD

Pegasus House
Seven Stars Estate
Wheler Rd.
Coventry
CV3 4LB

Tel: 024 76 303311 Fax: 024 76 307711

LMS FINAL INSPECTION & CALIBRATION CERTIFICATE

INSTRUMENT DETAILS		
Serial No	5033	CUSTOMER
S/W Version	G4.18v-LTBX	Northern Soil Surveys Ltd

INSTRUMENT CHECKS			
Keyboard	✓	Clock Set / Running	✓
Pump In/Out	✓	Labels Fitted	✓
Display Contrast	✓	Recalibration Due	23/03/2017

GASES					
CH4		CO2		O2	
Test %	Reading %	Test %	Reading %	Test %	Reading
0 accept <= 0.1	0	0 accept <= 0.1	0	0 accept <= 0.1	0.1
5.6 accept 5.4-5.8	5.5	4.1 accept 3.9-4.3	4.0	21 accept 20.5-21.2	20.9
52 accept 50.0-54.0	53	47 accept 44.0-52.0	45		

PRESSURES			
Absolute/Relative		Differential	
Atmos accept current +/-1	1001	0.0	x
Atmos + 50 mbar accept current +48-+52	1051	+30 mbar accept 29.5-30.5	x
Atmos - 50 mbar accept current -48--52	950	-30 mbar accept -29.5--30.5	x

TEMPERATURE	
Applied °C	Reading °C
0 accept -0.1-+0.1	0
25 accept 24.5-25.5	24.9
40 accept 37.5-40.5	40.2

OPTIONS					
Borehole Flow (see other Side)	x	LEL	✓	Temp Probe (see above)	x
Extraction Flow	x			Toxic Gasses (see other Side)	✓

PACKING						
Charger	UK✓	US	Euro	Sample Pipe	Standard ✓	Flow
Manual	x			Serial Cable	x	
Leather Bag	✓			Software	x	
Strap	✓			Cal Certificate	✓	

TEST DATE AND CONDITIONS	
Date	23/03/2016
Atmospheric Pressure	1001 mB
Ambient Temp	23.0 ^{0}C
Environics Serial No.	n/a

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Wheler Rd.
Coventry
CV3 4LB

Tel: 024 76 303311 Fax: 024 76 307711

LMS FINAL INSPECTION & CALIBRATION CERTIFICATE (OPTIONS)

Toxic Gasses			
Gas Type	Range	Tested @	Reading
H2S	1500ppm	10ppm	10.1ppm
CO	1000ppm	410ppm	410ppm

Cross Gas Effects					
Applied gas		Readings			
Type	Concentration	Toxic 1: H2S	Toxic 2: CO	Toxic 3:	Toxic 4:
H2S	10ppm	10.1ppm	0ppm		
CO	410ppm	4.8ppm	410ppm		

Flow Tests - Low Range Option					
Target Flow	-5 L/Hr	0 L/Hr	5 L/Hr	10 L/Hr	20 L/Hr
Applied	-5	0.0	5	10	20
Flow Reading	x accept applied +/- 0.5	0.0 accept applied +/- 0.0	x accept applied +/-0.5	x accept applied +/-0.7	x accept applied +/-3.0
dp Applied (Pa)	-13	0.0	13	30	76
dp Reading (Pa)	x accept applied +/-5	0.0 accept applied +/-0.0	x accept applied +/-5	x accept applied +/-10	x accept applied +/-20
Flow Tests - High Range Option					
Target Flow	-30 L/Hr	0 L/Hr	30 L/Hr	60 L/Hr	120 L/Hr
Applied	-30	0.0	30	60	120
Flow Reading	x accept applied +/-3.0	0.0 accept applied +/-0.0	x accept applied +/-3.0	x accept applied +/-4.0	x accept applied +/-15
dp Applied (Pa)	x	0.0	x	x	x
dp Reading (Pa)	x accept applied +/-15	0.0 accept applied +/-0.0	x accept applied +/-15	x accept applied +/-50	x accept applied +/-200

Tested ..... Approved .....

APPENDIX E- Ness Tip landfill data (selected)

Annual Environmental Monitoring Review

Ness Farm Landfill, Aberdeen

FAIRHURST

Project Number: 55496
September 2016

CONTROL SHEET

CLIENT: **SUEZ RECYCLING AND RECOVERY UK LTD**

PROJECT TITLE: **NESS FARM LANDFILL**

REPORT TITLE: **ANNUAL ENVIRONMENTAL MONITORING REVIEW**

PROJECT REFERENCE: **55496**

DOCUMENT NUMBER: **D/I/D/55496/202**

Issue & Approval Schedule	ISSUE 1 FINAL	Name	Signature	Date
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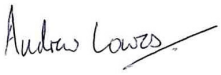
	Checked by	A J Lowes		16th August 2016
	Approved by	A J Lowes		16th August 2016

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	1				By	
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This document has been prepared in accordance with procedure OP/P02 of the *Fairhurst Quality and Environmental Management System*

CONTENTS

1.0 INTRODUCTION 1
2.0 DETAILS OF MONITORING UNDERTAKEN 1
3.0 MONITORING WELL MAINTENANCE REQUIREMENTS 1
4.0 MONITORING RESULTS AND TRENDS – LANDFILL GAS 2
5.0 MONITORING RESULTS AND TRENDS – LEACHATE/ GROUNDWATER 13
6.0 MONITORING RESULTS AND TRENDS – SURFACE WATER 32
7.0 SETTLEMENT MONITORING 36
8.0 RECOMMENDED ACTIONS 37
9.0 ENVIRONMENTAL MONITORING STRATEGY 38
10.0 REFERENCES 39

APPENDICES

Appendix A: Drawings
Appendix B: Monitoring Schedule
Appendix C: Monitoring Data
Appendix D: Gas Monitoring Graphs
Appendix E: Completion, Trigger and Control Levels

1.0 INTRODUCTION

Fairhurst have prepared this Annual Environmental Monitoring report for SUEZ Recycling and Recovery UK Ltd (SUEZ) to review the results of the environmental monitoring undertaken between July 2015 and June 2016 at Ness Farm landfill, located to the south of Aberdeen City Centre.

Phased restoration and capping works at Ness Farm landfill commenced in May 2009 and were completed in May 2013. The boundaries of the four restoration phases are shown on Drawing No. 55496/8007, Appendix A. The landfill is now in its aftercare phase.

Ongoing since June 2004, the environmental monitoring was initially undertaken to identify baseline landfill conditions. During the period covered by this report monitoring was undertaken to identify post restoration environmental conditions, the necessity for action to reduce the risk of harm to human health, property and the environment and to determine landfill conditions in relation to agreed landfill completion criteria.

2.0 DETAILS OF MONITORING UNDERTAKEN

The environmental monitoring discussed in this report was, where possible, undertaken in accordance with the SEPA approved Fairhurst document 'Environmental Monitoring Plan, Ness Farm Landfill, October 2014' (Ref. 1).

The requirements of the plan are summarised in the monitoring schedule presented in Appendix B. All well locations are shown on Drawing No. 55496/8012, Appendix A.

3.0 MONITORING WELL MAINTENANCE REQUIREMENTS

Maintenance required to existing monitoring infrastructure is notified to Fairhurst on a monthly basis by Aberdeen Scientific Services Ltd. During the June 2016 monitoring visit monitoring well N62 and passive gas vents GV95, GV103, GV108, GV109, GV113, GV119, GV156 and GV214 in the Ness Area were noted to require their gas taps replacing. Investigation and repair of this requirement is ongoing at the time of writing.

There were no further new maintenance requirements reported during the monitoring.

4.0 MONITORING RESULTS AND TRENDS – LANDFILL GAS

This section presents the results and trends of the landfill gas monitoring. At each of the gas monitoring wells Methane (% Volume), Carbon Dioxide (% Volume), Oxygen (% Volume), Atmospheric Pressure (mb), Gas Pressure (mb) and Gas Flow Rate (l/h) were recorded.

The following sections summarise the results of gas monitoring undertaken between July 2015 and June 2016. As a guide, internal monitoring wells in the Ness Farm and Tullos Hill areas of Ness Farm landfill are those that were drilled through waste deposits and external monitoring wells are those where no waste was encountered during drilling. The wells are considered in the groups described in Table 1 and Table 2 below.

Table 1

Ness Area of Ness Farm Landfill		
	Internal	External
Phase 1 Capped Area	N89, N90	N44A, N47, N48, N49C, N50, N51, N70
Passive Gas Vent Stacks in Phase 1 Capped Area	GV1 – GV53	
Phase 2 Capped Area	N62A	N11A, N13A, N15B, N17B, N21, N22, N79, N81, N83, N99A, N107, N108
Passive Gas Vent Stacks in Phase 2 Capped Area	GV54 – GV143	
Phase 3 Capped Area	N93, N94, N111, N112, N113	N1, N2, N5A, N42, N76
Passive Gas Vent Stacks in Phase 3 Capped Area	GV144 – GV197	
Phase 4 Capped Area	N28, N31, N39A, N91, N92	N26A, N63, N65, N103
Passive Gas Vent Stacks in Phase 4 Capped Area	GV198 – GV264	

Table 2

Tullos Hill Area of Ness Farm Landfill	
Internal	
Internal Wells	T23, T24, T25A, T26
Gas Venting Curtains	North – CVS1 – 9, South – CVS10 - 28
External	
North	Inside Curtain - T36, T20, T39 Outside Curtain - T37, T38, T40 To east or west of curtain - T17, T18A, T19, T21, T22, T28, T29, T30
South	Inside Curtain - T4, T5, T6, T8, T9, T31, T33 Outside Curtain - T7, T10, T32, T34, T35 To west of curtain - T11, T12A, T13
East	T3
West	T14, T15, T16A, T27

4.1 Ness Farm

The results presented in Appendix D indicate that;

- Average Carbon Dioxide (28%) and Methane (43%) concentrations recorded in the southern Phase 1 capped area over the past twelve months were slightly elevated above those historically recorded.
- Average Carbon Dioxide (12%) and Methane (21%) concentrations recorded in the northern Phase 2 capped area over the monitoring period were lower than those historically recorded.
- Average Carbon Dioxide (26%) and Methane (46%) concentrations recorded in the central Phase 3 capped area during the monitoring period were slightly elevated above those historically recorded.
- Average Carbon Dioxide (15%) and Methane (29%) concentrations recorded in the central Phase 4 capped area during the monitoring period were generally consistent with those historically recorded.
- It is considered that where average methane and carbon dioxide concentrations are shown to have fluctuated in the Phase 1 - 4 areas over the last twelve months in comparison to historic records, this is a result of the reduced frequency of monitoring adopted since November 2014 and is not reflective of a change in the equilibrium gassing conditions within the capped area. Equilibrium gassing conditions are considered to have been recorded in the Phase 1 - 4 areas over the last twelve months.
- Results demonstrate that the flow rates reported within the internal monitoring wells within the Ness Farm landfill are generally very low, with a maximum flow rate of 1.2l/hr reported in the capped area during the monitoring period.
- Lateral migration of carbon dioxide marginally elevated above action levels continues, as historically monitored, in all directions external to the landfill boundary. This is discussed further in the following sections. Elevated concentrations of gases are likely to be associated with both the landfill and the natural ground conditions outwith the immediate landfill boundary.
- Lateral migration of methane elevated above the action level is generally not occurring and has only been consistently locally recorded to the west (N26 and N35) over the last twelve months. It is considered that elevated concentrations of gases are likely to be associated both with the landfill and the natural ground conditions outwith the immediate landfill boundary.

Monitoring data has been graphically represented in Appendix E to depict annual and long term gassing trends.

4.1.1 Completion Criteria for Internal Wells

In accordance with the Ness Farm Gas Management Plan (Ref. 2) monitoring of landfill gas shall continue until one of the following three Completion Criteria has been achieved:

a) The maximum concentration of flammable gas from the landfill reduces to less than 1% by volume and the concentration of Carbon Dioxide from the landfill reduces to less than 1.5% by volume measured in all monitoring points within the waste; or

b) An examination of the waste using an appropriate statistical sampling method provides a 95% level of confidence that the biodegradable matter has been used up; or

c) The rate of gas emission from each borehole, measured on at least four individual occasions over a 24 month monitoring period and including two occasions when atmospheric pressure is falling and is less then 1000mb, is such that emissions are always; less than 0.015m³/hr CH_4 and less than 0.022m³/hr CO_2.

Gas concentrations recorded between July 2015 and June 2016 in the capped area indicates that completion criteria relating to total concentrations of methane and carbon dioxide are not being achieved within the Ness Farm waste mass.

Gas flow rates associated with internal wells have generally been low with average flow rates of 0.5l/hr recorded. Isolated slightly elevated flow rates of up to 1.2l/hr were, however, recorded on an infrequent basis.

The results to date generally indicate that, although elevated total concentrations of methane and carbon dioxide are being recorded, the gas flow rates are sufficiently low that the movement of the gases from the wells / landfill into the surrounding atmosphere is not at a significant rate and that all internal monitoring wells comply with Option C of the Completion Criteria requirements, and have done since capping completion in May 2013.

4.1.2 Long Term Gas Management Options

During restoration works passive gas vents were installed within the capped area of Ness Farm landfill (Drawing No. 55496/8003, Appendix A). Gas concentrations and flow rates are monitored on a six monthly basis, in December and June. The results of this monitoring are presented in Appendix D.

Gas monitoring data reviewed between July 2015 and June 2016, and indeed to date, demonstrates that formal capping has not caused a notable increase in off-site lateral landfill gas migration. The passive gas vents installed within the cap appear to have been successful in preventing the build-up, and subsequent offsite lateral migration, of potentially harmful internal landfill gas concentrations.

The data reviewed, and provided in Appendix D, also demonstrates negligible flow rates within internal gas vents and significant numbers of vents recording average methane concentration of less than 10%. As such, and as the internal emission rates have now achieved the gas flow rate completion criteria, it is considered that gas flaring is not warranted.

In October 2012, Fairhurst submitted proposed amendments to the existing Gas Management Plan (Ref. 2) to SEPA, with proposals including removing requirements for a gas pumping and flaring trial and an active gas venting system. On the basis that no concerns have been highlighted by SEPA to date, management of the site will continue based on these proposals.

4.1.3 Action Criteria for External Wells

As stated in the Ness Farm Gas Management Plan (Ref.2), where landfill gas emissions recorded in external monitoring wells to Ness Farm exceed 1% Methane and 1.5% Carbon Dioxide, actions, as set out in the plan, are to be undertaken. The following section discusses the July 2015 to June 2016 gas data, potential risks identified to sensitive receptors and the need for any such action.

As detailed in Appendix D, Appendix E1 and above, landfill gas action criteria were exceeded along the Northern, Southern, Eastern and Western boundaries during the monitoring period and have been historically. Such exceedences are only considered to present a risk in areas where there is a sensitive receptor within 250m of the landfilled mass, of which there are three (Drawing No. 55496/8012, Appendix A). Gas monitoring adjacent to these receptors identified the following;

Doonies Farm Area

Adjacent wells along Southern Boundary – N44A, N47, N50, N51, N70

Wells immediately adjacent to receptor (farm buildings) – N48 and N49C

The above wells generally recorded flow rates below detection limits (i.e. <0.1l/hr) with only sporadic occurrences above this figure (maximum 0.3l/hr). Locally, an isolated elevated flow rate of 14.1l/hr was recorded in N47 in September 2015, however, this was not replicated in the following monitoring visits or in adjacent wells and the well is not located immediately adjacent to the farm buildings.

Methane concentrations were consistently recorded below action criteria and generally below detection limits (i.e. 0.1%) both immediately adjacent the landfill and the receptor. The maximum concentration recorded was 0.9%.

As shown in Table 3, carbon dioxide concentrations recorded in wells N47, N48, N49C and N50 were generally below or only marginally elevated above the action level of 1.5%. Concentrations recorded in N44A and N51 were consistently elevated above the action level.

Monitoring wells N44A and N51 are located approximately 200m from the farm buildings and are not immediately adjacent to confined spaces.

Table 3

	Sep-15	Dec-15	Mar-16	Jun-16	Average $C0_2$	Max $C0_2$
N44A		4.80		5.30	5.00	5.30
N47	3.90	1.90	1.50		2.40	3.90
N48	0.50	1.50	2.40	0.20	1.15	2.40
N49C	0.10	2.60	1.20	2.20	1.50	2.60
N50	2.00	0.10	0.30		0.80	2.00
N51		12.00		3.70	7.90	12.00
N70		0.10			0.10	0.10

In accordance with CIRIA 665 (Ref. 8), conditions monitored adjacent to the farm buildings (i.e. in N48 & N49C) over the last twelve months generally correspond to a worst case gassing Characteristic Situation 1 (very low risk) under which no special protective measures are required.

In addition, gas monitoring data reviewed demonstrates that formal capping of the Phase 1 area, adjacent to Doonies Farm, has not caused a notable increase in off site migration. The passive gas vents installed within the cap and leachate drains around the perimeter continue to be successful in preventing the build up, and subsequent lateral migration, of potentially harmful internal landfill gas concentrations in the vicinity of receptors.

Buildings adjacent to Wood Group Corner

Wells immediately adjacent to receptor – N99a

Wells in vicinity of receptor – N17b, N107 and N108

Flow rates were generally at or below the detection limit of <0.1l/hr with a maximum flow rate of 0.3l/hr recorded.

Methane concentrations were generally recorded at detection limits in wells adjacent the Wood Group buildings over the monitoring period.

Carbon Dioxide concentrations were generally recorded below the action level of 1.5% (average 0.9%), however, isolated elevated concentrations of up to 2.7% were also identified.

In accordance with CIRIA 665 (Ref. 8) , conditions monitored adjacent to the Wood Group buildings over the last twelve months generally correspond to a gassing Characteristic Situation 1 (very low risk) under which no special protective measures are required.

In addition, gas monitoring data reviewed demonstrates that formal capping of the Phase 2 area, adjacent to Doonies Farm, has not caused a notable increase in off site migration in the direction of the buildings. The passive gas vents installed within the cap and leachate drains around the perimeter continue to be successful in preventing the build up, and subsequent lateral migration, of potentially harmful internal landfill gas concentrations.

Sewage Pumping Station

Adjacent wells along north eastern boundary - N11a, N13a

Wells immediately adjacent to receptor - N79

Flow rates in the above wells during the monitoring period were generally at or below the detection limit of <0.1l/hr.

Concentrations of methane were consistently recorded at concentrations below the action level of 1% and generally at or around the detection limit (<0.1%) during the monitoring period.

Since wells N11a and N13a were re-installed in 2011, carbon dioxide concentrations have generally been recorded below the action level of 1.5% along the landfill boundary, with this trend continuing during the monitoring period. There were, however, isolated concentrations of 18.9% recorded in N11A in September 2015 and 3.2% in N13A in March 2016.

Well N79 is located down gradient and north of wells N11a and N13a, and is in closer proximity and at a coincident elevation with the sewage pumping station. The well could not be monitored in September and December 2015 is it was lost in dense vegetation, however, recorded carbon dioxide concentrations very marginally elevated above the action limit between March and June 2016 (maximum 2.9%).

As these marginally elevated carbon dioxide concentrations are not generally replicated in the wells which bound the landfilled waste, the concentrations recorded in N79 are considered to reflect localised ground conditions in this area and not emissions from the landfill. Therefore, the potential risk presented by elevated concentrations of carbon dioxide is likely to have been mitigated against within the design of the pumping station building, and elevated Carbon Dioxide concentrations in this area of the site are not considered to be directly attributable to the landfill.

In addition, gas monitoring data reviewed continues to demonstrate that formal capping of the Phase 2, 3 and 4 areas has not caused a notable increase in off site migration in the

direction of the sewage treatment works which is at a notably lower topographical elevation in the first instance.

4.2 Tullos Hill

The results presented in Appendix D indicate that;

- Monitoring undertaken over the reporting period indicates a slight decrease in average methane and carbon dioxide concentrations in internal wells. It is considered, however, that this is likely to reflect the reduced number of annual gas readings taken since revision of the monitoring programme in November 2014 and should be reviewed over the coming 24 months to determine whether it reflects a long or short term trend.
- Total concentrations of methane and carbon dioxide continue to be significantly elevated above completion criteria in internal wells.
- Methane and carbon dioxide concentrations were generally recorded as being below or only very marginally elevated above the relevant action levels along the eastern and western boundaries of the landfill over the last twelve months. Lateral migration of carbon dioxide and methane along the northern and southern boundaries is more complex and is discussed in Section 4.2.2.

Monitoring data has been graphically represented in Appendix E to depict annual and long term gassing trends.

4.2.1 Completion Criteria for Internal Wells

In accordance with the Tullos Hill Gas Management Plan (Ref. 3) 'monitoring of landfill gas shall continue until one of the following criteria have been achieved':

- The maximum concentration of flammable gas from the landfill reduces to less than 1% by volume and the concentration of Carbon Dioxide from the landfill reduces to less than 1.5% by volume measured in all monitoring points within the waste, or
- An examination of the waste using an appropriate statistical sampling method provides a 95% level of confidence that the biodegradable matter has been used up, or
- The rate of gas emission from each borehole, measured on at least four individual occasions over a 24 month monitoring period and including two occasions when atmospheric pressure is falling and is less then 1000mb, is such that emissions are always; less than 0.015m³/hr CH_4 and less than 0.022m³/hr CO_2.

Gas concentrations recorded between July 2015 and June 2016 indicate that total concentration completion criteria are not being achieved within the Tullos Hill waste mass.

However, gas flow rates within internal wells have generally been low during the monitoring period with the majority of the results reporting a flow rate at or below detection limits (0.1l/hr). The maximum flow rate was recorded as 0.4l/hr. These results indicate that although elevated concentrations of Methane and Carbon Dioxide are being recorded the results obtained within the monitoring wells indicate that they comply with the Option C Completion Criteria for flow rates; with the movement of the gases from the landfilled mass into the surrounding atmosphere reported as being at a very low rate.

4.2.2 Action Criteria for External Wells

As stated in the Tullos Gas Management Plan (Ref.3), where landfill gas emissions recorded in external monitoring wells to Tullos Hill exceed 1% Methane and 1.5% Carbon Dioxide, actions, as set out in the plan, are to be undertaken. The following section discusses the July 2015 to June 2016 gas data, the potential risks identified to sensitive receptors bordering the landfill and the need for any such actions.

Gas Venting Measures along Northern and Southern Boundaries

Two passive gas venting curtains were installed along Tullos Hill's northern and southern boundaries during restoration works in June 2009. The venting curtains comprise twenty eight venting stacks (CVS1 - CVS28) along with eight pairs of monitoring wells one internal and one external to the venting measures as shown on Drawing No. 55496/8012, Appendix A. Results of the gas monitoring undertaken throughout the 2015/16 monitoring period are presented in Appendix D7. The following tables summarise the carbon dioxide and methane concentrations for monitoring carried out on vent stacks and wells located on either side of the gas monitoring curtains between July 2015 and June 2016 (i.e. December 2015 and June 2016).

Northern Gas Curtain

Table 4 – Gas Vent Stack Monitoring Results

	Methane		Carbon Dioxide	
	Average	Maximum	Average	Maximum
CVS1	<0.1	<0.1	0.1	0.1
CVS2	<0.1	<0.1	<0.1	<0.1
CVS3	<0.1	<0.1	<0.1	<0.1
CVS4	<0.1	<0.1	0.15	0.2
CVS5	<0.1	<0.1	0.1	0.1
CVS6	<0.1	<0.1	0.1	0.1
CVS7	<0.1	<0.1	0.15	0.2
CVS8	<0.1	<0.1	0.1	0.1
CVS9	<0.1	<0.1	<0.1	<0.1

Vent stacks within the northern gas curtain (CVS1-CVS9) have historically recorded negligible flow rates and very low carbon dioxide and methane concentrations. This was again demonstrated during the reporting period.

Table 5 – Internal / External Monitoring Paired Well Results*

	Inside Gas Curtain		Gas Vent Stack		Outside Gas Curtain	
	Average $C0_2$	Max $C0_2$			Average $C0_2$	Max $C0_2$
T36	7.3	12.9	CVS2	T37	2.2	4.0
T20	1.3	2.8	CVS5	T38	3.2	14.9
T39	1.8	3.1	CVS7	T40	0.3	1.2

* Methane concentrations were not recorded above action levels along the northern gas curtain between July 2015 and June 2016. Concentrations were also predominantly at or below detection limits (0.1%).

The Carbon Dioxide concentrations in the soil atmosphere beyond the gas curtain marginally exceeded the action criteria on a intermittent basis during the monitoring period in T37 and T38 along the northern boundary. The external gas concentrations recorded were not, however, associated with elevated flow rates, which were generally between <0.1 and 0.3l/hr.

Due to the absence of associated methane, and on occasions the absence of elevated concentrations internal to the gas curtain, the occurrence of these elevated concentrations of carbon dioxide beyond the virtual gas curtain at low flow rates is considered to be predominantly associated with normal soil gas conditions in this area. The gas curtain is therefore considered to be effectively venting migrating gas emissions from the landfill. However, slightly elevated Carbon Dioxide concentrations at low to negligible flow rates may continue to exist beyond the curtain associated with normal soil gas conditions in this area.

Based on a maximum Gas Screening Value of 0.0447l/h and a maximum carbon dioxide concentration of 14.9% the gassing conditions external to the venting measures are considered to represent a low risk (Characteristic Situation 2 in accordance with CIRIA 665, Ref. 8) to localised commercial properties and end-users of Greenbank Crescent.

Southern Gas Curtain

Table 6 – Gas Vent Stack Monitoring Results

	Methane		Carbon Dioxide	
	Average	Maximum	Average	Maximum
CVS10	<0.1	<0.1	<0.1	<0.1
CVS11	<0.1	<0.1	0.10	0.10
CVS12	<0.1	<0.1	0.15	0.20
CVS13	<0.1	<0.1	0.25	0.30
CVS14	<0.1	<0.1	0.20	0.20
CVS15	0.15	0.20	0.35	0.40
CVS16	0.15	0.20	0.20	0.30
CVS17	1.70	1.90	1.30	1.60
CVS18	1.05	2.00	0.90	1.70
CVS19	0.45	0.60	0.55	0.80
CVS20	2.90	3.40	3.00	3.60
CVS21	<0.1	<0.1	<0.1	<0.1
CVS22	<0.1	<0.1	<0.1	<0.1
CVS23	<0.1	<0.1	0.10	0.10
CVS24	0.45	0.80	2.65	5.20
CVS25	<0.1	<0.1	0.30	0.50
CVS26	<0.1	<0.1	0.15	0.20
CVS27	1.25	1.30	1.45	1.80
CVS28	3.15	3.80	1.85	2.50

Vent stacks within the southern gas curtain (CVS10-CVS28) have continued to record negligible flow rates as has historically been the case. It is considered that the low flow rates and gas concentrations demonstrate the effectiveness of the passive gas venting cowels at promoting carbon dioxide and methane removal from the vent stacks and associated gas curtain.

As highlighted in Table 6, vent stacks CVS15 - CVS20, CVS24 and CVS27 - CVS28 have recorded marginally elevated average Carbon Dioxide or Methane concentrations compared to the other vent stacks. These vent stack locations coincide with areas of the landfill which have historically emitted high landfill gas concentrations. They are also very close to the waste boundary.

Table 7 – Internal / External Monitoring Paired Well Results

	Inside Gas Curtain				Gas Vent Stack		Outside Gas Curtain			
	Average C02	Max C02	Average CH4	Max CH4			Average C02	Max C02	Average CH4	Max CH4
T31	0.3	0.3	<0.1	<0.1	**CVS12**	**T10**	0.5	1.3	<0.1	0.1
T9	2.4	4.6	0.1	0.2	**CVS16**	**T32**	0.5	1.4	<0.1	0.2
T33	0.2	0.2	<0.1	<0.1	**CVS20**	**T7**	1.8	3.4	<0.1	0.1
T5	2.7	3.9	<0.1	<0.1	**CVS24 CVS25**	**T34**	3.5	15.1	1.8	7.9
T4	2.6	2.9	2.8	3.5	**CVS26 CVS27**	**T35**	7.7	18.5	8	23.5

Gas flow rates in the wells above were recorded between <0.1 and 0.5l/hr between July 2015 and June 2016.

Methane concentrations were generally recorded below the action level outwith the southern gas curtain during the monitoring period. Concentrations were also predominantly below or only marginally elevated above detection limits (0.1%). This is with the exception of elevated concentration (4.4-7.9%) recorded in well T34 between August and October 2015 and concentrations of up to 23.5% recorded in well T35 on a fluctuating basis.

Carbon dioxide concentrations were generally recorded below or only marginally elevated above the action level out with the southern gas curtain during the monitoring period. This is with the exception of elevated concentration (11.6-15.1%) recorded in well T34 between August and October 2015 and concentrations of up to 18.5% recorded in well T35 on a fluctuating basis.

Based on review of the gas concentrations recorded internal to the gas curtain it is considered that elevated concentrations recorded in T10, T32 and T7 potentially represent natural ground conditions external to the curtain. In addition, the elevated concentrations recorded in T34 between August and October 2016 were not replicated during subsequent monitoring visits and have not been consistently replicated historically. As such, with the exception of adjacent to well T35, migration of methane and carbon dioxide does not appear to present a significant risk to adjacent commercial properties.

Based on a maximum Gas Screening Value of 0.12l/h and maximum methane concentration of 23.5% the localised gassing conditions are considered a low risk (Characteristic Situation 2 in accordance with CIRIA 665 (Ref.8)) to localised commercial properties and end-users within 100m of the landfilled mass (Drawing No. 55496/8012, Appendix A). In addition to this, buildings which could contain confined spaces are largely located in excess of 100m from the southern boundary of the landfill.

With reference to gas concentrations recorded in monitoring well T35, significantly elevated concentrations of carbon dioxide and methane have now been inconsistently recorded for in excess of twenty four months and, although not generally replicated in adjacent well T4 (internal to T35), it is recommended that additional qualitative gas risk assessment is prepared in relation to this localised area and the findings presented formally to SEPA. Gas concentrations should also be monitored closely over the next twelve months to further confirm long term trends with regards to localised gas migration in this area.

Gas Monitoring along the Northern Boundary to the West of the Gas Curtain

Wells – T17, T18, T19

Methane and carbon dioxide concentrations were recorded below the action levels in these wells between July 2015 and June 2016. Flow rates were also consistently low (i.e. <0.1 – 0.3l/hr). In accordance with CIRIA 665 (Ref. 8), the conditions reported classify as a gassing Characteristic Situation 1 (very low risk) and extension of the northern gas venting measures is not considered warranted.

Gas Monitoring along the Northern Boundary to the East and West of the Gas Curtain

Wells – T21, T22, T28, T29 and T30

Methane concentrations were generally recorded below the action level in these wells between July 2015 and June 2016, this is with the exception of one marginally elevated concentration of 1.4% in T22 in June 2016. Carbon dioxide concentrations were recorded between 1.2% and 14.2%, average 6.6%. Flow rates were consistently low (i.e. <0.1 – 0.5l/hr).

In accordance with CIRIA 665 (Ref. 8), the conditions reported classify as a gassing Characteristic Situation 2 (low risk). In addition, the wells are located in excess of 50m from buildings which could contain confined spaces and are generally located at a higher topographical level.

Based on the above assessment, extension of the northern gas venting measures is not currently considered warranted. It is recommended, however, that monitoring wells T21, T22, T28, T29 and T30 are monitored on a monthly basis over the coming twelve months to provide a better understanding of localised gassing conditions.

Gas Monitoring along the Southern Boundary to the East and West of the Southern Gas Curtain

East of the Gas Curtain, Well – T3

Over the 12 month monitoring period, and historically, methane concentrations, carbon dioxide concentrations and flow rates were all recorded at or marginally above detection limits. As such, extension of the southern gas venting measures is not considered warranted.

West of the Gas Curtain, Wells – T11, T12, T13

Methane concentrations were consistently recorded at or below detection limits in these wells between July 2015 and June 2016. Carbon Dioxide concentrations were generally below the action level with the exception of concentrations of 1.9% and 2.4% recorded in T13. Flow rates were generally low (i.e. <0.1 – 0.3l/hr). The gas concentrations recorded are considered reflective of natural ground conditions.

In accordance with CIRIA 665 (Ref. 8), the conditions recorded classify as a Gassing Characteristic Situation 1 (very low risk). Based on this assessment, extension of the southern gas venting measures is not considered warranted.

4.3 Modifications to Future Gas Monitoring

Gas monitoring in the Ness Farm and Tullos Hill areas of Ness Farm Landfill since restoration completion has proven that equilibrium conditions, and in some instances completion criteria, are being demonstrated. Monitoring proposals recently agreed with SEPA reflect these conditions and, as such, modifications are not considered necessary.

Monitoring wells external to the southern gas curtains, which recorded results above the action level over the last two years, should continue to be monitored on a monthly basis to better inform local gassing conditions in these areas and additional qualitative risk assessment undertaken, as described.

5.0 MONITORING RESULTS AND TRENDS – LEACHATE/ GROUNDWATER

This section presents the results and trends of the monitoring of leachate and groundwater.

Based on assessments carried out in the July 2006 Ness Farm Landfill Hydrogeological Risk Assessment (Ref. 4) and the May 2007 Tullos Hill Landfill Hydrogeological Risk Assessment (Ref. 5), trigger and control levels for groundwaters and surface waters and leachate completion criteria internal to the landfill were determined for the two landfilled areas. These trigger and control levels and completion criteria are included in Appendix F.

Where additional List I and List II determinands were added to the monitoring schedule in March 2009, following agreement by SEPA, the determinand control/ trigger levels are included in Appendix C. The Hydrogeological Risk Assessments for the landfills have not been revised to include the determinands, however, if as a result of continued monitoring the determinands are found to be consistently elevated above environmental assessment levels, the determinands will be modelled and relevant criteria developed.

The following section comments on groundwater quality up hydraulic gradient of the Ness Farm and Tullos Hill areas of Ness Farm landfill to demonstrate background groundwater quality of List I substances, List II substances and Indicator Parameters. The same substances and parameters have then been assessed both internally against leachate completion criteria (where available) and externally against groundwater trigger and control levels (where available).

The behaviour of leachate and groundwater has been considered separately for each site area. The wells are grouped as shown in Table 8, and shown on Drawing No. 55496/8012, Appendix A.

Table 8

Ness Area of Ness Farm Landfill	
Internal Leachate	
Leachate Wells within Phase 1 Capped Area	N89, N90
Phase 1 Leachate Sump	N102
Leachate Wells within Capped Phase 2 Area	N62
Phase 2 Leachate Sump	N114
Leachate Wells within Capped Phase 3 Area	N93, N94, N111, N112, N113
Leachate Wells within Capped Phase 4 Area	N28, N31, N39A, N91, N92
External Groundwater	
Up-gradient	N63, N65, N103
Down-Gradient	N11A, N47, N49C, N50, N70
Distant	N19B, N66, N76

Tullos Hill Area of Ness Farm Landfill	
Internal Leachate	
	T23, T24, T25, T26
External Groundwater	
Up-gradient	T9, T12, T15, T27
Down-Gradient	T17, T19, T20, T21, T22, T41

Leachate collected in sumps N102 and N114 has been redistributed within the landfill during the past twelve months in accordance with the Leachate Management Plan (Ref.6).

During 2015/16 a sump (T41) located on the northern boundary to the Tullos Hill area has been used to collect leachate impacted groundwaters and prevent their ingress into the adjacent property to the north. Monitoring of liquid from this sump has consistently shown that it is collecting groundwaters which have been very marginally impacted on by leachate. In this report it is therefore considered as an external groundwater monitoring point.

5.1 Ness Farm

Ness Farm Landfill has been divided into a number of catchments based on the results of site investigation works and monitoring undertaken over the last ten years. The catchment areas are shown on Drawing No.55496/8017, Appendix A.

5.1.1 Levels

Groundwater level monitoring was undertaken, where possible, in scheduled monitoring wells in the Ness Farm area between July 2015 and June 2016. Groundwater level data for each well and a graph of trends are presented in Appendix D1.

The following wells were consistently dry, or showed only negligible quantities of water in the base of the well, throughout this monitoring period: N1, N2, N5A, N11A, N13A N26A, N28, N91, N92, N111 and N112. This is consistent with historic monitoring trends in these wells.

The capped areas of Ness Farm landfill are discussed in detail below;

Phase 1 Capped Area

Monitoring during the reporting period continues to support assertions that capping of the Phase 1 area has reduced the leachate level within the waste by up to 1.0m compared to levels recorded pre-capping. Levels appear to be decreasing at a slow rate.

In addition, within the external wells adjacent to the Phase 1 capped area (N47 N48, N50, N70), where perimeter leachate drains were installed during restoration, lowering in the groundwater level of between 1.0m and 2.0m has continued to be recorded during the reporting period. This is consistent with results recorded since completion of the restoration works in this area.

Phase 2 Capped Area

Monitoring of internal well N62a in the Phase 2 waste during the reporting period indicates no change in the average leachate level over the last twelve months. Leachate levels have, however, declined by approximately 1.7m following completion of the capping works.

Monitored levels within the external wells to the west of the Phase 2 capped area continue to exhibit a larger seasonal variation than elsewhere on-site and average yearly levels have historically fluctuated both prior to, during and after capping. There does not appear to have been a significant reduction or increase in groundwater levels as a result of the capping works.

Monitoring of wells N11A, N13A, N15B and N17B along the north eastern boundary of the landfilled area continue to report generally steady state conditions and results correlate to historic data which indicates that wells in this area are generally subject to lower seasonal variations than those experienced adjacent Wood Group Corner.

Phase 3 Capped Area

Monitoring of internal wells N93, N94, N111 and N112 in the Phase 3 waste over the past twelve months indicate relatively consistent conditions with only minor seasonal fluctuations. There does not appear to have been an increase/ decreased in the levels in these wells when compared to historic monitoring data.

This is with the exception of well N94 which recorded an increase in leachate level of 2.2m in June 2016 due to the re-infiltration of leachate being switched to Area 3 in May 2016. It is recommended that the leachate level in this well is monitored on a regular basis whilst leachate is re-distributed to it and the trigger levels and actions detailed in the Operations Manual observed.

Monitoring well N113 recorded average levels consistent with those recorded in 2014/ 2015. Fluctuations in leachate levels in the well are, however, more pronounced than in other wells in the Phase 3 capped area. It is considered that this is due to the well being located adjacent to leachate redistribution area 4 which has been predominantly used to redistribute leachate in the landfill over the past twelve months prior to it being switched to Area 3.

Monitoring wells situated adjacent to the capped Phase 3 area report generally dry conditions (N1, N2, N5A, N11A), both pre and post capping, with only localised areas of groundwater reported (within N42 and N76). The groundwater levels reported within these wells were reported as being relatively consistent, exhibiting only minor fluctuations. Average groundwater levels have marginally reduced compared to those historically recorded prior to and during capping.

Phase 4 Capped Area

Monitoring of the internal monitoring wells (N28, N31, N39A) in the eastern Phase 4 capped area over the past twelve months indicates fluctuating levels but overall a decline in average leachate levels. This reduction is in keeping with similar annual reductions recorded post capping.

N91 and N92 in the west of the Phase 1 area have consistently recorded dry conditions since installation during the restoration works. This continued during the monitoring period.

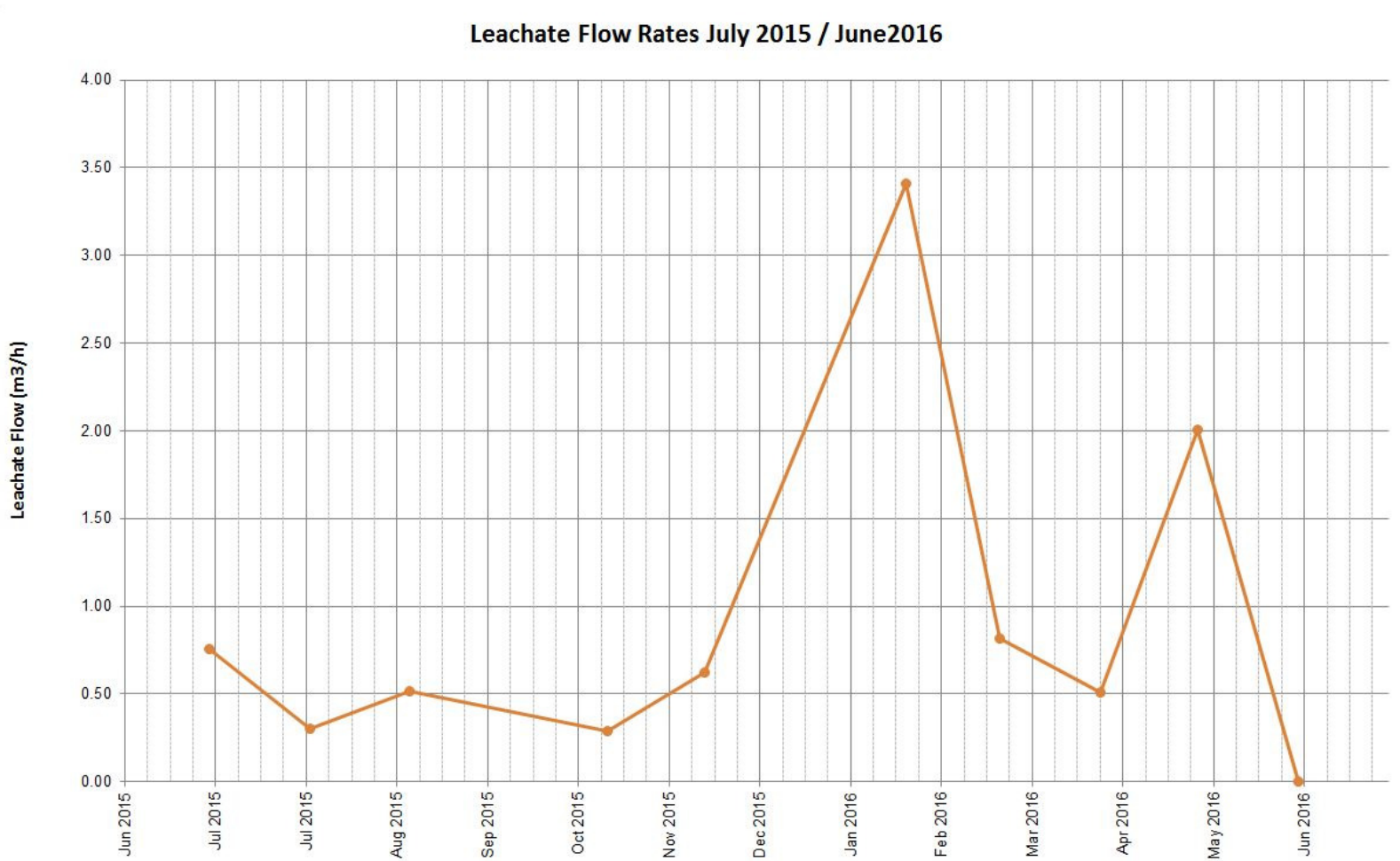
Leachate Volumes

Four leachate redistribution areas (Areas 1, 2, 3 and 4) are present below the cap at Ness Farm Landfill (Drawing No. 55496/8012, Appendix A). During the monitoring period Area 4 was utilised to re-infiltrate leachate from the two leachate sumps (F15 and F40) on site between July 2015 and May 2016. Distribution was switched to Area 3 between May and June 2016 due to the presence of standing leachate in the splitter manholes in Area 4, noted during annual inspection of the leachate infrastructure.

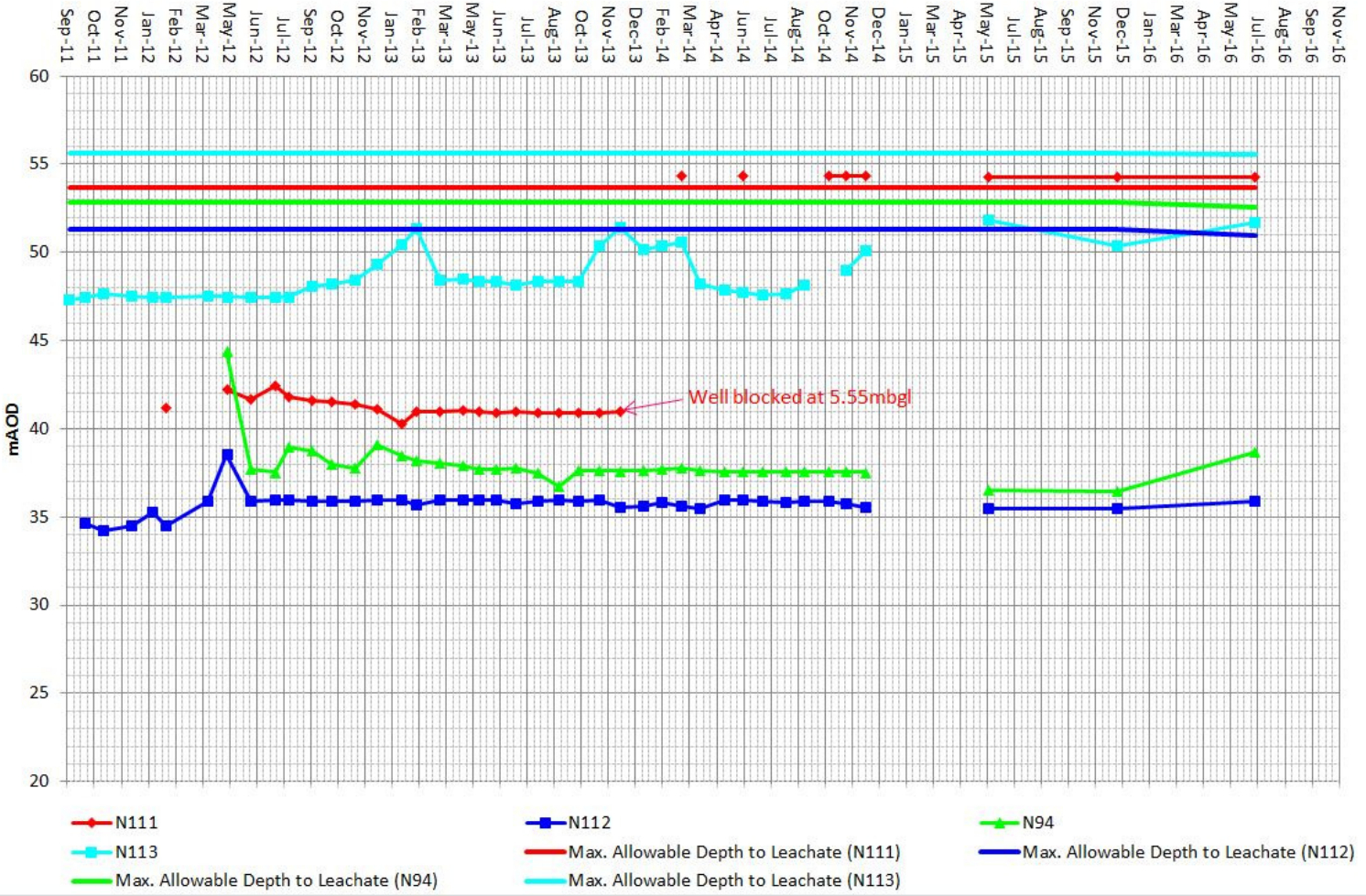
Area 4 was re-inspected in June 2016 and the distribution manholes were dry with leachate having dissipated. It was noted, however, that sediment and 'scum' was present within the manholes and could potentially be present in the connected perforated distribution pipes. As such, it is recommended that maintenance in the form of investigation and cleansing is undertaken prior to further utilisation of Area 4 for leachate re-distribution.

Presented below are graphs of the recorded leachate flow (m^3/h) at leachate redistribution area 4 over the monitoring period (Graph 1) and the recorded leachate flow (m^3/h) since monitoring commenced in 2009 (Graphs 2 & 3). With reference to monitoring well N111 in leachate redistribution Area 1, this well became partially blocked at 5.6m bgl in January 2014. As such, groundwater can only be monitored if it rises above this level. Monitored levels have, however, been consistently below this level during the monitoring period.

Graph 1


Leachate Flow Rates July 2015 / June2016
Leachate Flow (m3/h)
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
Jun 2015
Jul 2015
Jul 2015
Aug 2015
Sep 2015
Oct 2015
Nov 2015
Dec 2015
Jan 2016
Feb 2016
Mar 2016
Apr 2016
May 2016
Jun 2016

Graph 2


mAOD
60
55
50
45
40
35
30
25
20
Sep-11
Oct-11
Nov-11
Jan-12
Feb-12
Mar-12
May-12
Jun-12
Jul-12
Sep-12
Oct-12
Nov-12
Jan-13
Feb-13
Mar-13
May-13
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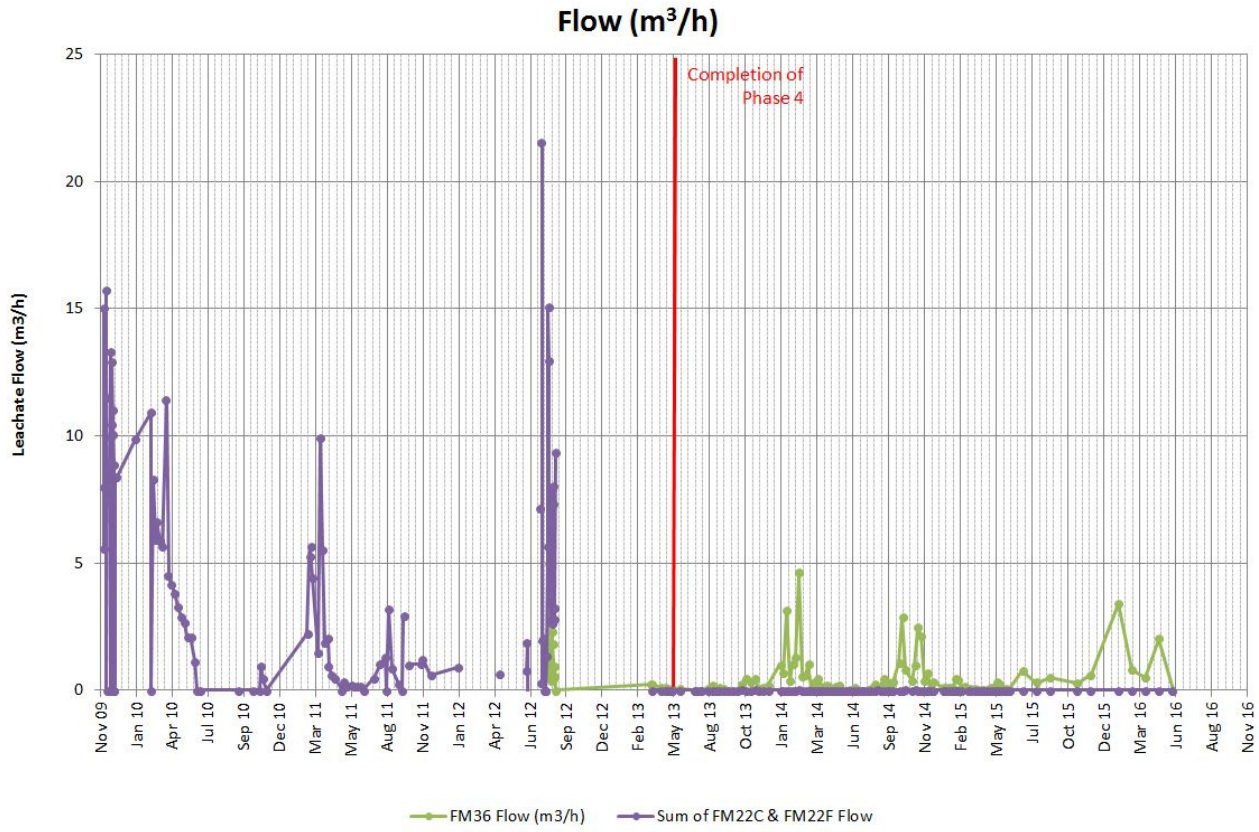
Mar-15
Apr-15
May-15
Jul-15
Aug-15
Sep-15
Nov-15
Dec-15
Jan-16
Mar-16
Apr-16
May-16
Jul-16
Aug-16
Sep-16
Nov-16
Well blocked at 5.55mbgl
N111
N112
N94
N113
Max. Allowable Depth to Leachate (N111)
Max. Allowable Depth to Leachate (N112)
Max. Allowable Depth to Leachate (N94)
Max. Allowable Depth to Leachate (N113)

Graph 3



Note; The location of the leachate flow rates identified are shown on Drawing No. 55496/8002, Appendix A.

A total of 8,940m^3 of leachate was redistributed in the landfill during the monitoring period. As shown in Table 8 this represents an increase in the general leachate quantities generated following capping completion in 2013 but still represents a significant reduction since capping commenced in 2009.

A maximum flow rate of 3.4m^3/hr and average flow rate of 0.9m^3/hr were also recorded.

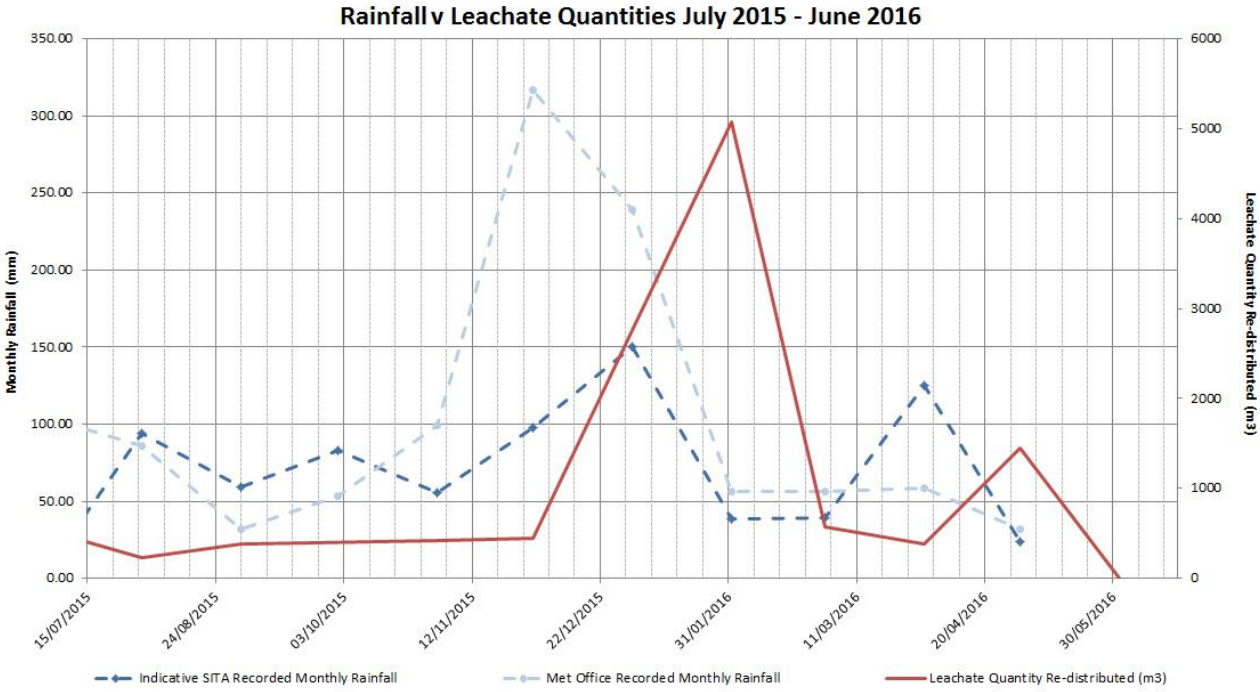
Table 8

Monitoring Period	Total Leachate Redistributed (m^3)
2009/10	36,900
2010/11	10,500
2011/12	7,536
2012/13	5,500
2013/14	3,800
2014/15	3,115
2015/16	8,940

With reference to the increase in leachate generation compared to the 2014/ 2015 monitoring period, it is noted that a total of approximately 6,500m^3 of this leachate was generated between December 2015 and January 2016 and in April 2016. As shown in Graph 4, this increase corresponds with particularly high rainfall events at the site recorded both informally by SUEZ and by the Met Office at their Braemar weather station.

As such, it is considered that the increased leachate quantities are likely to represent short term increases generated by recharge of the wider groundwater table. This should, however, be confirmed by weekly monitoring of leachate quantities over the next twelve months.

Graph 4



5.1.2 Hydrogeological Regime

Groundwater/ leachate monitoring in the Ness Farm area confirms that the leachate continues to be in hydraulic continuity with the groundwater.

The results of the leachate / groundwater level monitoring confirms that the Ness Farm area can be split into three separate catchment areas based on the direction of leachate / groundwater flow. The results indicate a laterally continuous water table which flows to the northeast, east and southeast (see Drawing No. 55496/8017). From the monitoring results approximate hydraulic gradients for the three separate catchment areas are highly variable.

Capping has successfully reduced surface water infiltration into the waste, thereby reducing leachate recharge. Leachate re-distribution has, however, risen within the landfill over the last months, for the first time since capping was completed. It is considered that this represents a short term increases generated by recharge of the wider groundwater table during particularly high rainfall events in late 2015.

5.1.3 Chemical Testing

Suites of chemical testing were undertaken on samples collected from the Ness Farm area of Ness Farm landfill in December 2015 and June 2016 with results presented in Appendix D4. The following observations have been made from the review of the chemical results.

5.1.4.1 List I

The results of the analysis provided in Appendix D4 show that the List I determinands analysed for generally have concentrations below laboratory detection limits, with the exception of the determinants discussed in the following section.

Background Groundwaters

With the exception of an isolated marginally elevated concentration of mercury, there were no determinands elevated above indicative trigger and control levels up hydraulic gradient of Ness Farm landfill over the last twelve months.

Internal Monitoring Wells and Leachate Sumps

There are no List I leachate completion criteria. As such, comment on the chemistry of the internal wells and leachate sumps is provided below in relation to indicative trigger and control levels to allow comparison with groundwaters up and down hydraulic gradient of the landfill.

Phase 1 Capped Area (Southern Catchment)

Several of the List I determinands were recorded as elevated above detection limits, however, only PCB's, benzo(a)pyrene, benzene, bis(2-ethylhexyl)phthalate and mecoprop were recorded as present at concentrations elevated above indicative external acceptance criteria.

Phase 2 Capped Area (Northern Catchment)

Several of the List I determinands were recorded as elevated above detection limits, however, only Cyanide, Benzo(a)pyrene and Mecoprop were recorded as present at concentrations elevated above indicative external acceptance criteria.

Phase 3 & 4 Capped Areas (Central Catchment)

Several List I determinants were reported above detection limits, however, only PCBs, mercury, 4-Methylphenol, mecoprop, naphthalene and m,p-xylene were recorded at concentrations elevated above indicative external acceptance criteria.

Phase 1-4 Capped Area

Comparison of chemical results obtained since capping completion, with the results obtained during the monitoring period, indicate that the overall concentrations of determinants within the leachate have fluctuated but do not demonstrate a consistent increase or decrease in concentrations.

Leachate Sumps

List I determinands were only tested for within leachate sumps N102 or N114 on one occasion during the monitoring period. With the exception of mecoprop, which was elevated above indicative external acceptance criteria, all other determinands were below detection limits.

Groundwater Down Hydraulic Gradient

South (Phase 1) – Mecoprop was consistently recorded as elevated above trigger and control levels in two of the five monitoring wells. Mercury was elevated on two occasions.

North (Phase 2) – Testing for List 1 determinants was not undertaken during the monitoring period as well N111A was dry.

Central (Phase 3 and 4) – Dichloroprop, mercury, cadmium and mecoprop were recorded as elevated above trigger and control levels.

Distal monitoring wells N20 and N66 – Mercury, cadmium and Mecoprop were recorded to be marginally elevated above trigger and control levels.

General Groundwater Observations

Determinand concentrations in the background groundwaters were predominantly recorded below detection limits with only an isolated elevated concentration of mercury above indicative external acceptance criteria.

PCBs, mercury, cyanide, benzo(a)pyrene, 4-methylphenol, benzene, bis(2-ethylhexyl)phthalate, naphthalene and m,p-xylene were locally recorded at concentrations elevated above indicative external acceptance criteria in the internal monitoring wells. The results recorded are generally consistent with those recorded during recent monitoring.

Mercury was locally recorded as elevated above trigger and control levels in the groundwater down hydraulic gradient of the site along with localised dichloroprop and cadmium. The dichloroprop and cadmium concentrations were not replicated in the internal leachate within the waste.

Mecoprop has consistently been marginally elevated above its trigger and control level in internal monitoring wells and in wells down hydraulic gradient of the landfill. However, the concentrations recorded in down gradient wells are generally lower than the concentrations of Mecoprop recorded within internal wells. It is therefore anticipated that waste materials containing Mecoprop internal to the Ness Area may be impacting on the quality of the groundwater external to the landfill and down hydraulic gradient, however, the impact is considered to be marginal. This appears to be anomalous as sources of Mecoprop within landfills are generally short term sources and would not be expected, if historically landfilled, to be continuing to impact in excess of 10 years after placement.

Overall, waste materials internal to the Ness Area appear to be marginally impacting on the quality of the groundwater external to the landfill; however, this impact is very minor.

5.1.4.2 List II

The results of the analysis provided in Appendix D4 show that the List II determinands analysed report concentrations which are generally above laboratory detection limits.

Background Groundwaters – Concentrations of List II determinands up hydraulic gradient of the landfill in the background groundwaters are generally above detection limits. During the monitoring period only ammonium, barium, chloroethane, lead and titanium were reported as being elevated above their indicative trigger levels on an infrequent basis.

Internal Monitoring Wells

Phase 1 Capped Area (Southern Catchment)

Concentrations of ammonia and TPH recorded in Phase 1 internal wells over the monitoring period continue, as has historically been the case, to be above the leachate completion criteria. Lead, PAH phosphorous, titanium and vanadium were also recorded at elevated concentrations above indicative trigger levels.

Phase 2 Capped Area (Northern Catchment)

Concentrations of ammonium and TPH were recorded below leachate completion criteria within internal well N62A. Antimony, nickel, nitrate, PAH, phosphorous and titanium were recorded at concentrations elevated above indicative trigger levels.

Phase 3 & 4 Capped Area (Central Catchment)

Concentrations of ammonium were reported as elevated above leachate completion criteria over the monitoring period. Antimony, arsenic, barium, chloroethane, lead, nickel PAH, phosphorus, titanium, vanadium and zinc were all reported as being elevated above their indicative trigger levels.

Phase 1 - 4 Capped Areas

Comparison of chemical results obtained during the reporting period with the results obtained during the 2014/ 2015 monitoring period, indicate that the overall List II determinant concentrations have fluctuated but are generally consistent with historic results.

Leachate Sumps

Concentrations of ammonium and TPH were reported below leachate completion criteria over the monitoring period. With the exception of ammonium, List II determinands were generally recorded below indicative trigger levels.

Groundwaters Down Hydraulic Gradient

South (Phase 1) – Ammonium, antimony, lead, nickel titanium and vanadium were consistently recorded as elevated above trigger levels, and on one isolated occasion control levels, over the reporting period. Barium, fluoride and phosphorous were locally elevated on an infrequent basis. Comparison of the results recorded within the internal and external boundary monitoring wells indicates that the concentrations recorded within the external down gradient wells are generally at comparable or lower concentrations to the corresponding internal wells.

North (Phase 2) – Testing for List II determinants was not undertaken during the monitoring period as there was insufficient water to sample in well N111A.

Central (Phase 3 & 4) - Only ammonium was consistently recorded as elevated above its trigger or control level. Lead and titanium were also recorded as elevated but on a less frequent basis.

Comparison of the external groundwaters concentrations with the comparable internal monitoring well concentrations indicates that the concentrations of determinands within the external wells were significantly lower than the concentrations of determinands within the corresponding internal wells during the reporting period.

Distal Monitoring Wells (N19B and N66) – Ammonium, antimony, arsenic, barium, lead, phosphorous, titanium and vanadium were recorded as elevated above trigger levels over the reporting period.

Although the distal wells located down hydraulic gradient of the landfill reported elevated concentrations of determinands above their trigger levels, the concentrations and chemical profiles were not generally comparable with those recorded within the landfill. It is therefore considered that waste materials internal to the Ness Area are only marginally impacting on the quality of the groundwater external to the landfill which may also be being impacted on by other contaminative land uses in the area.

The results recorded within all catchments in the wells down hydraulic gradient of the waste mass indicate that groundwaters continue to be marginally impacted on by List II determinants within the leachate. However, there does not appear to have been a significant change in the List II groundwater concentrations over the last twelve months.

5.1.4.3 Indicator Parameters

The results of the analysis provided in Appendix D4 show that the Indicator Parameters analysed for generally have concentrations above laboratory detection limits.

Background Groundwaters – Monitoring over the reporting period indicates that concentrations of indicator parameters up hydraulic gradient of the landfill in the background groundwaters are consistently above detection limits but are not significantly elevated. The majority of determinands are at concentrations significantly below indicative trigger levels for groundwaters down hydraulic gradient. This is with the exception of manganese and iron.

Internal Monitoring Wells and Leachate Sumps

Phase 1 Capped Area (Southern Catchment)

Concentrations of potassium were recorded, as has historically been the case, to be above leachate completion criteria in monitoring wells internal to the Phase 1 capped area. Electrical conductivity, chloride, sodium, calcium, magnesium and iron were also recorded at concentrations elevated above indicative trigger or control levels.

Phase 2 Capped Area (Northern Catchment)

Concentrations of chloride, sodium and potassium were recorded, as has historically been the case, to be above Leachate Completion Criteria in monitoring well N62A internal to the Phase 2 capped area. Elevated concentrations of electrical conductivity, iron and chromium were also recorded above indicative trigger and control levels.

Phase 3 & 4 Capped Areas (Central Catchment)

Concentrations of potassium were recorded, as has historically been the case, to be above the leachate completion criteria in monitoring wells internal to the Phase 3 and 4 capped area. Elevated concentrations of electrical conductivity, chloride, sodium, calcium, magnesium, manganese, iron and chromium were also recorded above indicative trigger and control levels.

Phase 1 - 4 Capped Areas

Comparison with the results recorded in 2014/ 2015 does not indicate a significant increase or decrease in leachate concentrations. The above results indicate that the waste materials internal to Ness Farm landfill are still degrading. It is considered that these results are representative of impact by waste materials.

Leachate Sumps

No determinand concentrations were recorded above leachate completion criteria or trigger and control levels in the leachate sumps during the monitoring period. Determinand concentrations were significantly lower than those recorded in the internal leachate monitoring wells.

Groundwater Down Hydraulic Gradient

Adjacent Phase 1 Capped Area (South) – Potassium, iron and chromium were consistently elevated above trigger levels in the majority of external southern wells. Electrical conductivity, chloride, calcium, magnesium and manganese were elevated on an infrequent localised basis. The concentrations recorded within the external wells down hydraulic gradient are generally lower than those recorded internal to the landfilled area.

Central – Electrical conductivity, chloride, sodium and potassium were elevated above trigger or control levels during the monitoring period. The results are considered consistent

with historic monitoring results and are significantly below concentrations recorded in the internal monitoring wells.

Adjacent Phase 2 Capped Area (North) – Testing for indicator parameters was not undertaken during the monitoring period as well N111A was dry.

Distal monitoring wells N19A and N66 – With the exception of potassium, manganese, iron and chromium, determinand concentrations were generally recorded below trigger and control levels and significantly below the concentrations recorded in the landfill. The results recorded within the distal monitoring wells are generally consistent with historic monitoring results.

As the above external wells are located down hydraulic gradient of the landfill and concentrations are not replicated in the background groundwaters, it is considered that waste materials internal to the Ness Area are impacting on the quality of the groundwater external to the landfill; however, this is considered to be a very marginal impact.

5.1.4.4 Tritium

A study by Galson Sciences Ltd (Ref. 7) on tritium within Scottish landfill sites concluded that tritium sources may be present within domestic and industrial waste sources. As such, tritium analysis has been scheduled for samples collected from the Ness Farm area.

A study carried out for the UK Department of the Environment in 1995 states that 'neither natural nor anthropogenic tritium is considered to pose any health risk to the general public'. The World Health Organisation guidelines for drinking water quality also do not specify any limit for tritium as it is not considered to be radiotoxic. The UK Drinking Water Standard for tritium is 100Bq/l and the following wells located across the Ness farm site exceeded this value in the past 12 months.

- Internal: N62A, N89, N90 and N93
- Leachate Sumps: N102
- Down gradient; southern catchment: N44
- Down gradient; central catchment: N76
- Down gradient; northern catchment: N11A & N79
- Distal Wells: None

The background concentrations recorded in wells N63, N65 and N103 are consistently below laboratory detection limits indicating that there is no background source of tritium. In addition, concentrations recorded in distal wells N20 and N68 in the playing fields are also consistently below laboratory detection limits.

Correlation between identified low level radioactive waste cells in the landfill (Drawing No. 55496/8012 Appendix A) and elevated concentrations of tritium are not consistent across the site. However, the same external and internal wells display elevated concentrations historically indicating that tritium sources and / or pathways are associated with these wells.

In wells located down hydraulic gradient of the low level radioactive waste cells, concentrations were recorded above the UK Drinking Water Standard (100Bq/l), at concentrations ranging between 63 and 2500 Bq/l. However, similar concentrations between 79 and 1605Bq/l were also recorded in the south of the site where no source is present. As such, it is considered that the relationship between the landfill waste and elevated tritium concentrations is complex.

Several of the wells within the waste or down gradient to the waste consistently record elevated values. This pattern is consistent on each monitoring event and indicates that elevated tritium associated with the landfill is impacting on groundwaters at the site. The concentrations recorded during the 2015/16 monitoring period are generally consistent with results recorded during the previous twelve months (2014-2015) monitoring period.

5.1.4.5 pH

pH values recorded in groundwaters over the last twelve months infer that the landfill waste is not significantly impacting on the pH of groundwaters down hydraulic gradient.

5.1.4.6 Conclusions

The review of the historic monitoring data and comparison with data recorded between July 2015 and June 2016, allows the following conclusions to be drawn;

Background Groundwater

Background groundwater quality was monitored in wells N63, N65 and N103. The results from these wells have been consistent over the past 12 months and the following properties have been determined for background groundwater quality:

- List I determinands were identified at concentrations consistent with normal background groundwater quality.
- List II determinands were generally recorded at concentrations above detection limits. Only ammonium, barium, chloroethane lead and titanium were reported as being elevated above their indicative trigger levels. Concentrations recorded are consistent with historical monitoring data and are generally significantly lower than recorded in internal wells and down hydraulic gradient.
- Concentrations of indicator parameters are consistently elevated above detection limits but are not significantly elevated. The majority of determinands are at concentrations significantly below indicative trigger levels. This is with the exception of manganese and iron. Concentrations recorded are consistent with historical monitoring data and also significantly lower than those recorded in internal wells and down hydraulic gradient.
- Tritium levels were consistently below laboratory detection limits indicating that tritium is not a significant constituent of background groundwater.

Internal Leachate Quality

Internal leachate quality has been determined by chemical testing of samples from the following wells in June 2016.

Phase 1 Capped Area (Southern Catchment) - N89 and N90.

Phase 2 Capped Area (Northern Catchment) – N62a

Phase 3 & 4 Capped Area (Central Catchment) – N31, N39A, N93, N94 and N113

Leachate sumps N102 (Phase 1) and N114 (Phase 2) were also chemically analysed during the monitoring period.

In comparison to monitoring data since June 2004 there appears to have been only minor fluctuations in the general leachate quality within Ness Farm landfill.

The following observations were made on the leachate quality of internal wells and sumps:

Leachate Completion Criteria

Leachate completion criteria are not consistently being achieved in the Ness Area. Ammonia, TPH, chloride, potassium and sodium are being recorded as elevated above completion criteria, as has historically been the case.

List I Determinands

- Concentrations of List I determinands within internal wells were generally elevated above background groundwater quality and on several occasions above indicative trigger and control levels.
- Concentrations are not considered to have significantly increased or decreased in the capped areas of Ness Farm landfill compared to historic monitoring data.
- Concentrations of List I determinands within the leachate sumps were generally consistent with background groundwater quality with only mecoprop elevated above its trigger level.

List II Determinands

- A range of List II determinands were consistently recorded at concentrations exceeding indicative trigger or control levels within the internal wells.
- During the reporting period there does not appear to have been a significant change in List II determinant concentrations in internal wells in comparison to historic monitoring data.
- With the exception of ammonium, List II determinands were consistently recorded at concentrations below indicative trigger or control levels within the leachate sumps.

Indicator Parameters

- A range of indicator parameters were consistently recorded at concentrations exceeding indicative trigger or control levels within the internal wells.
- During the reporting period there does not appear to have been a significant change in indicator parameter concentrations in internal wells.
- Only potassium and iron were recorded at concentrations exceeding indicative trigger or control levels within the leachate sumps.

General Observations

- Leachate completion criteria are not yet being achieved at the site.
- Tritium concentrations are significantly elevated above background concentrations. However, there is no obvious connection between elevated tritium and the location of the radioactive cells at the site.
- The above results indicate the waste materials internal to the landfill are still degrading and that the landfill waste continues to impact on the quality of groundwaters at the site, all be it marginally.

Groundwater Quality Down Hydraulic Gradient

Groundwater quality down hydraulic gradient of the landfilled boundary of Ness Farm landfill has generally remained unchanged with slight fluctuation during the reporting period when compared to monitoring results since June 2004.

The following observations were made on the quality of down gradient and distal groundwaters.

Southern Catchment

- The majority of List I determinands were recorded below both detection limits and trigger and control levels, with the exception of Mercury and Mecoprop.
- List II determinands, ammonium, antimony, lead, nickel, titanium and vanadium were recorded above trigger or control levels on a consistent basis. Barium, fluoride and phosphorous were also recorded above trigger or control levels on an inconsistent basis.
- Indicator parameters; potassium, iron and chromium were consistently elevated above trigger levels in the majority of external southern wells. Electrical conductivity, chloride, calcium, magnesium and manganese were elevated on an infrequent basis.
- Leachate quality is not generally reflected in the external groundwaters.
- There does not appear to have been a significant change in the groundwater concentrations down hydraulic gradient of the southern capped area over the reporting period.

Central Catchment

- The majority of List I determinands were recorded below both detection limits and trigger or control levels, however, dichloroprop, mercury, cadmium and mecoprop were recorded as elevated.
- Several List II determinands were recorded above detection limits. Ammonium was consistently reported as elevated above its control level and lead and titanium above their trigger levels.
- With the exception of electrical conductivity, chloride, sodium and potassium, determinants were recorded below trigger and control levels.
- There does not appear to have been a significant change in the groundwater concentrations down hydraulic gradient of the Phase 3 and Phase 4 capped areas over the reporting period.

Northern Catchment

- With the exception of tritium, chemical testing was not undertaken during the monitoring period as well N111A contained insufficient water.

Distal Monitoring Wells (N20 & N66)

- The majority of List I determinands, List II determinands and Indicator Parameters, with the exception of mercury, cadmium, mecoprop, ammonium, antimony, arsenic, barium, lead, phosphorous, titanium, vanadium, potassium, manganese, iron and chromium, were recorded at concentrations below either detection limits or trigger and control levels. It is anticipated that the landfill, as well as potentially external sources, is impacting on the groundwater, however, the impact is considered to be marginal.

In addition;

- Tritium concentrations are significantly elevated above background concentrations.

As the above external wells are located down hydraulic gradient of the landfill and as elevated concentrations of these pollutants are not replicated in the background groundwater wells, it is considered that waste materials internal to the Ness landfill boundary are impacting on the quality of groundwater external to the landfill.

The concentration of determinands monitored at the site, although fluctuating slightly, particularly in the distal monitoring wells, have generally shown consistency since 2004. There is no indication that concentrations of List I determinands, List II determinands or Indicator Parameters have significantly reduced or increased over the reporting period in monitoring wells located external to the landfill.

Based on the consistency of the groundwater and leachate chemistry demonstrated during the monitoring period, and indeed historically, it is recommended that the monitoring programme implemented in December 2014 is maintained.

Hydrogeological Assumptions

It appears from the previous twelve months monitoring that the assumptions made in the Hydrogeological Risk Assessment for Ness Farm are correct and no revision or amendment is required at this stage. It is not currently considered necessary to revise the trigger and control levels within the Hydrogeological Risk Assessment or to model additional determinands.

5.2 Tullos Hill

5.2.1 Levels

Monitoring of the groundwater/ leachate level was undertaken in each of the 40 No. monitoring wells in the Tullos Hill area on a six monthly basis between July 2015 and June 2016. Selected wells were also monitored on a monthly basis during scheduled gas monitoring. Groundwater/ leachate level data for each well and a graph of trends are presented in Appendix D2.

The following wells were recorded as dry or contained negligible quantities of water in the bottom of the well on a consistent basis over the past twelve months: T3, T4, T5, T6, T7, T10, T11, T13, T14, T18, T24, T25, T34 and T35. This is in keeping with historic monitoring data.

Levels in the remaining monitoring wells generally demonstrated average variation in water level of <1.0m. More exaggerated fluctuations of up to 1.46m were, however, recorded in wells T8, T9, T12, T28, T33 and T36 along the northern and southern boundaries. It is considered that these fluctuations are localised and due to seasonal variation which has been historically demonstrated in the Tullos Hill area.

5.2.2 Hydrogeological Regime

The groundwater levels recorded between July 2015 and June 2016 confirmed a continuous northerly hydraulic gradient through the waste as shown on Drawing No. 55496/8017, Appendix A.

5.2.3 Chemical Testing

Chemical testing was undertaken on samples collected from the Tullos Hill area of Ness Farm landfill in December 2015 and June 2016. The results are presented in Appendix D5. The following observations have been made from the review of the chemical results.

List I

The results of the analysis provided in Appendix D5 show that the List I determinands analysed for generally have concentrations below laboratory detection limits.

Background Groundwaters – With the exception of Mercury, which was reported as being elevated above indicative trigger and control levels on one occasion, and cadmium and

cyanide which were elevated above detection limits, all other determinands were recorded at levels consistent with historic data and were below detection limits over the twelve month monitoring period.

Internal Monitoring Wells – Mecoprop was consistently reported as being elevated above indicative trigger and control levels in the waste. Mercury, benzene and m-p xylene were also infrequently recorded. Concentrations were comparable to historic results.

Monitoring Wells Down Hydraulic Gradient - With the exception of Mercury and Mecoprop, which were reported as being intermittently elevated above trigger and control levels, and cadmium which was elevated above detection limits, concentrations were generally below detection limits throughout the twelve month monitoring period.

It is considered that mercury concentrations reflect those recorded in the background groundwater and, as such, the Tullos Hill landfilled mass is not considered to be impacting on mercury concentrations down hydraulic gradient.

Mecoprop has consistently been marginally elevated above its trigger and control level in internal monitoring wells and in wells down hydraulic gradient of the landfill. However, the concentrations recorded in down gradient wells are generally significantly lower than the concentrations of mecoprop recorded within internal wells. It is therefore anticipated that waste materials containing mecoprop internal to the Tullos Area may be impacting on the quality of the groundwater external to the landfill and down hydraulic gradient, however, the impact is considered to be marginal. This appears to be anomalous as sources of Mecoprop within landfills are generally short term sources and would not be expected, if historically landfilled, to be continuing to impact in excess of 10 years after placement.

In general, monitoring in the Tullos Hill Area of Ness Farm landfill has consistently shown that concentrations of List I determinands within the waste materials, with the exception of mecoprop, have not been elevated above their trigger and control levels and are such that they are not adversely impacting on groundwaters down gradient of the site.

List II

The results of the analysis provided in Appendix D5 show that the List II determinands analysed for generally have concentrations above laboratory detection limits.

Background Groundwaters – Several List II determinands, including ammonium, antimony, arsenic, barium, lead, nickel, phosphorous, selenium, titanium, TPH and vanadium, were recorded above trigger or control levels throughout the monitoring period.

The results recorded in the background groundwaters are considered consistent with those recorded in 2014/2015, however, are elevated above historic monitoring data.

Internal Monitoring Wells – Ammonium and TPH concentrations were elevated above leachate completion criteria during the monitoring period. Monitoring wells internal to the landfill also reported concentrations of determinands above indicative trigger or control levels, with ammonium, antimony, nickel, PAH and zinc reported as being elevated. Results were consistent with historical monitoring data.

Monitoring Wells Down Hydraulic Gradient – Lead, nickel, nitrate, titanium, TPH and vanadium were consistently recorded above trigger or control levels over the last twelve months. However, elevated lead, nickel, titanium and vanadium concentrations were also recorded in the background groundwater at generally comparable concentrations and, as such, are not considered to reflect landfill impact on the groundwaters.

Ammonia and TPH were on occasions marginally elevated above their control levels in T41. It is considered that the chemical results in this sump support the determination, as

previously inferred, that this sump collects groundwater which has been only slightly impacted on by leachate.

Indicator Parameters

The results of the analysis provided in Appendix D5 show that the Indicator Parameters analysed for generally have concentrations above laboratory detection limits.

Background Groundwaters – Potassium, iron and chromium were consistently recorded above historic background groundwater quality and above indicative trigger or control levels. These results are not consistent with historic monitoring data.

Internal Monitoring Wells – Concentrations of sodium, potassium and iron were elevated above leachate completion criteria and their control level, and manganese was recorded above its trigger level. All other determinand concentrations were recorded below indicative trigger and control levels.

Monitoring Wells Down Hydraulic Gradient – Potassium, manganese, iron and chromium were consistently recorded above trigger and control levels over the reporting period. However, elevated concentrations of iron and chromium were also recorded in the background groundwater at generally comparable concentrations and as such, are not considered to reflect landfill impact on the groundwaters.

pH

pH values recorded in groundwaters over the last twelve months infer that the landfill waste is not significantly impacting on the pH of groundwaters down hydraulic gradient.

5.2.4 Conclusions

The following conclusions were determined from the review of the July 2015 to June 2016 monitoring data for the Tullos Hill area of Ness Farm Landfill.

Background Groundwater

- With the exception of Mercury and cyanide on one occasion, and cadmium on a more consistent basis, List I determinands in the background groundwaters were generally recorded below detection limits.
- Several List II determinands and indicator parameters were recorded as elevated. This is not consistent with historic monitoring data pre 2011 and should be monitored further over the next twelve months.

Internal Leachate Quality

- List II determinands and indicator parameters have been observed to be elevated above leachate completion criteria and indicative trigger and control levels, indicating that the landfilled mass in the Tullos Hill Area is still degrading and completion criteria are not being achieved. These concentrations may also, however, be being impacted on by an apparent long/ short term deterioration in background groundwater quality.

Groundwater Quality Down Hydraulic Gradient

- With the exception of mercury and mecoprop, of which mercury is also present in the background groundwaters, List I determinands in the groundwaters down hydraulic gradient have generally been recorded below detection limits.
- A limited number of List II determinands and indicator parameters have been observed to be consistently elevated above trigger and control levels and demonstrate a minor impact on groundwaters down hydraulic gradient by the landfilled mass.

- The concentrations of determinands recorded are not considered consistent with historic monitoring data pre 2011 and may be the result of an external impact on the groundwater up hydraulic gradient.
- It is considered that the chemical results in sump T41 continue to support the determination that this sump collects groundwater which has been very slightly impacted on by leachate.

From review of the chemical data, the waste is inferred to be impacting slightly on the groundwater quality down hydraulic gradient. Due to the depth of groundwater, and the limited number of determinands elevated above background groundwater quality and trigger and control levels, it is not considered that impacted groundwater presents a significant risk to groundwaters further down gradient.

The concentration of determinands monitored in the leachate, although fluctuating slightly, have generally shown overall consistency since 2004. There is no indication that concentrations of List I determinands, List II determinands or indicator parameters have reduced over the past twelve months.

Based on the consistency of the groundwater and leachate chemistry demonstrated during the monitoring period, and indeed historically, it is recommended that the monitoring programme implemented in December 2014 is maintained.

Hydrogeological Assumptions

It appears from the previous twelve months monitoring that the assumptions made in the Hydrogeological Risk Assessment for Tullos Hill are correct and no revision or amendment is required at this stage.

In addition it is not currently considered necessary to revise the trigger and control levels within the Hydrogeological Risk Assessment or to model additional determinands. Monitoring of the background groundwater will continue to be undertaken to determine whether elevated determinands recorded during the current reporting period, and recent monitoring, are replicated or represent a short term external impact on the background groundwaters.

6.0 MONITORING RESULTS AND TRENDS – SURFACE WATER

This section presents the results and trends of the monitoring of surface water.

6.1 Hydrogeology

SW1-SW5

Surface water monitoring points have been positioned at four locations along the East Tullos Burn to the north of the site (SW1-SW4) and one point along the coast to the east of the site (SW5), as shown on Drawing No. 55496/8012 (Appendix A).

All of the surface water monitoring points are down hydraulic gradient of the landfill site, with SW1 located at the north western edge of the Ness Farm site and monitoring points SW2-SW4 located further downstream and to the east of SW1. It is not considered that monitoring points SW1 or SW2 are in direct hydraulic continuity with the landfill due to this section of the burn being contained within a culvert and hence these surface waters are considered representative of normal background surface water quality in this area.

Hydrogeological analysis of the groundwater levels to the north and north-west of Ness landfill have historically indicated that the landfill and East Tullos Burn are not largely in hydraulic continuity based on inferred burn base levels. However, works commenced in 2012, and were completed in June 2014 to restore the burn from a hard-engineered straightened channel into a more natural stream and associated functional floodplain. This involved creation of wetlands and associated off-channel features to provide the same function as a Sustainable Urban Drainage Systems (SUDS), but in a more aesthetic and natural way. As such, the bed levels and layout of the burn have changed and it is not currently possible to draw comparison between the groundwater levels within Ness Farm landfill and the base levels of East Tullos Burn. It is recommended that a survey of the burn is undertaken, as necessary, to facilitate this exercise.

SW6-SW8

Surface water runoff from the restored southern Phase 1 area of Ness Farm landfill is collected at SW6. Surface water runoff from the northern and central restored Phase 2-4 areas of Ness Farm landfill is collected at SW7 and SW8. The surface waters from the capped areas have been separated from waste by a Geofin and GCL capping system.

6.2 East Tullos Burn (SW1-4)

In December 2015 elevated concentrations of several List I determinants, List II determinants and indicator parameters were recorded at sampling points SW1-SW4 which were not consistent with historic or recent monitoring data. The concentrations recorded were generally higher in SW1 and SW2 than SW3 and SW4.

As SW1 and SW2 are not in direct hydraulic continuity with the landfill due to this section of the burn being contained within a culvert, and the waters are representative of normal background surface water quality in this area, it is considered that the chemical concentrations represent a significant external impact on the watercourse upstream and not an impact by the landfill. As such, the results recorded in December 2015 have been discounted from assessment and are not discussed further within this section.

6.2.1 List I Substances

The results of the analysis provided in Appendix D6 show that List I determinands analysed for generally have concentrations below laboratory detection limits. Marginally elevated concentrations of mecoprop were inconsistently reported in SW3 and SW4 in March and

June 2016, however were also reflected in higher concentrations in the surface waters up hydraulic gradient in background waters SW1 and SW2.

6.2.2 List II Substances

The results of the analysis provided in Appendix D6 show that List II determinands analysed for generally have concentrations above laboratory detection limits.

Ammonia was consistently elevated above the trigger level, but below the control level, at all four sampling locations throughout the twelve month monitoring period. Fluoride and titanium were also elevated above their trigger level on an infrequent basis. Concentrations recorded in SW3 and SW4 were generally equivalent to, or lower than, those recorded in SW1 and SW2, indicating that surface waters may be being externally impacted up stream.

6.2.3 Indicator Parameters

The results of the analysis provided in Appendix D6 show that Indicator Parameters analysed for, generally have concentrations above laboratory detection limits.

Electrical conductivity, chloride and sodium were recorded on one occasion in all four monitoring points, at concentrations above their trigger level. Concentrations at SW3 and SW4, however, were generally equivalent to or below those recorded in SW1 and SW2, indicating that surface waters may be being externally impacted up stream.

6.2.4 Conclusions

The result of monitoring the surface water quality within East Tullos Burn to the north of the Ness Farm landfill area indicates that the chemical characteristics of the surface water have fluctuated over the monitoring period.

Mecoprop and ammonia were consistently elevated above trigger levels within the burn over the last twelve months. However, these were also recorded in the background surface water ingressing the study area and are considered attributable to external impacts other than Ness Farm landfill.

The remaining determinand concentrations have generally consistently been recorded below trigger and control levels with exceedences occurring only intermittently and for a small number of determinands.

Chemical results generally indicate that the landfill did not impact adversely on this surface water body over the reporting period.

6.3 Coastal Surface Water Monitoring Points East of the Site (SW5)

Surface waters at SW5 have been historically noted to be in hydraulic continuity with leachate impacted groundwaters from Ness Farm Landfill.

6.3.1 List I Substances

List I substance mecoprop was consistently recorded above its trigger and control level in the surface waters sampled at SW5 over the reporting period. This determinand was also generally elevated in the groundwaters surrounding the site.

6.3.2 List II Substances

SW5 consistently recorded ammonia concentrations that exceeded the trigger level. Concentrations of fluoride and titanium were also reported as being infrequently elevated above trigger levels.

When compared to monitoring results since June 2004 the concentrations of ammonia recorded are considered consistent and demonstrate the generally fluctuating concentrations recorded at this point.

6.3.3 Indicator Parameters

Indicator parameters; electrical conductivity, chloride, sodium, potassium and iron were elevated above trigger levels over the reporting period. The determinants recorded as elevated are generally consistent with the chemical composition found within saltwater. It is therefore suggested, that in addition to marginal impact from the landfill, SW5 may also be impacted on by saltwater, although the extent of this impact is not known.

6.3.4 Conclusions

Groundwater within Ness Farm landfill is considered to be in hydraulic continuity with the surface waters at SW5. The monitoring results obtained over the last twelve months, and indeed historically, indicate that surface water at monitoring point SW5 continues to be marginally impacted on by contact with these groundwaters, however, may also be exhibiting evidence of impact from sea spray due to its coastal location.

There is a low risk that humans may come into contact with surface waters in the area of SW5. However, a cap has been constructed over the landfill to reduce the discharge potential in this area and leachate collection measures installed. Further assessment of the potential risk of harm to humans and ecology will be undertaken once the long term changes in contamination is established relating to the capping process.

6.4 Surface Water Monitoring Point SW6

Surface water runoff from the restored southern Phase 1 area of Ness Farm landfill is collected at SW6. The surface waters from the capped area have been separated from waste by a Geofin and GCL capping system.

6.4.1 List I Substances

With the exception of one very marginally elevated concentration of mecoprop above its trigger level, List I determinands were generally recorded below detection limits in SW6.

6.4.2 List II Substances

List II substances were not reported as being elevated above trigger or control levels during the reporting period.

6.4.3 Indicator Parameters

Indicator parameters were not reported as being elevated above trigger or control during the reporting period.

6.4.4 Conclusions

The chemical results recorded in SW6 demonstrate that the surface waters from the southern capped area have been separated from waste by a Geofin and GCL capping system during the monitoring period and were not impacted on by landfilled waste or underlying leachate within the landfill.

6.5 Surface Water Monitoring Points SW7 – SW8

Surface water runoff from the restored northern and central areas of Ness Farm landfill is collected at SW7 and SW8. The surface waters from the capped area have been separated from waste by a Geofin and GCL capping system.

6.5.1 List I Substances

List I determinands were generally recorded below detection limits in SW7 and SW8.

6.5.2 List II Substances

With the exception of titanium on isolated occasions, List II concentrations were either below detection limits or significantly below trigger and control levels.

6.5.3 Indicator Parameters

Indicator parameters were not reported as being elevated above trigger or control levels during the reporting period.

6.5.4 Conclusions

The chemical results recorded in SW7 and SW8 demonstrate that the surface waters from the northern and central capped areas have been separated from waste by a Geofin and GCL capping system during the monitoring period and were not impacted on by landfilled waste or underlying leachate within the landfill.

7.0 SETTLEMENT MONITORING

In order to monitor total and differential settlements of the capped surface of the restored landfill and enable assessment of the impact on the capping surface water infiltration systems; permanent settlement monitoring points were installed at the locations shown on Drawing No. 55496/8012, Appendix 1.

Settlement monitoring, by topographical survey, is to be undertaken annually for a minimum period of 10 years with each settlement monitoring point surveyed to ± 5mm level and ± 100mm co-ordinates. When the rate of settlement is reduced to less than 25 mm/year for 2 consecutive years at all monitoring locations settlement monitoring will be suspended.

The 2015/ 2016 annual settlement monitoring survey was undertaken by Fairhurst on 12th May 2016. Records of the survey are included in Appendix D. The minimum, maximum and average settlements recorded in each restoration phase in 2015/2016, and the average and maximum total settlements of the cap since installation, are summarised below:

Restoration Phase	Settlement (mm)				
	Minimum 2015/16	Maximum 2015/16	Average 2015/16	Average Total	Maximum Total
1 (2009 - 2016)	+12	- 62	- 24	- 190* (167)	- 540* (282)
2 (2010 - 2016)	+17	- 66	- 33	- 162	- 255
3 (2012 - 2016)	- 24	- 78	- 50	- 168	- 323
4 (2013 - 2016)	- 14	- 85	- 41	- 61	- 154

* It is considered that settlement of 421mm recorded in MP1 in April 2015 could be an anomalous result and as such this result has been discounted. The adjusted maximum and average settlements discounting this result are show in brackets.

Conclusions

Settlement of the landfill is not occurring at a significant rate with maximum settlements of 60 – 85mm recorded within the capped area during the monitoring period. As locally settlement of over 25mm is occurring, annual settlement monitoring should continue for at least the next two years.

Maximum total settlement of 282mm has been recorded in the Phase 1 restoration area which was formally restored first. Based on predicted settlements of up to 4.0m (Ref. 9) as the waste degrades and consolidates, it is considered that settlement is likely to continue to occur for the foreseeable future.

8.0 RECOMMENDED ACTIONS

Based on review of the July 2015 – June 2016 monitoring data, the following is recommended;

- With reference to gas concentrations recorded in monitoring well T35, significantly elevated concentrations of carbon dioxide and methane have now been inconsistently recorded for in excess of twenty four months and, although not generally replicated in adjacent well T4 (internal to T35), it is recommended that additional qualitative gas risk assessment is prepared in relation to this localised area and the findings presented formally to SEPA. Gas concentrations should also be monitored closely over the next twelve months to further confirm long term trends with regards to localised gas migration in this area.
- Due to the variability in gas concentrations recorded in other wells external to the northern and southern gas curtains it is recommended that these wells should also continue to be monitored monthly over the next twelve months to confirm that these are short term fluctuations and monitoring does not represent a long term change in gassing conditions.
- Based on the gassing conditions recorded over the last twelve months, it is recommended that monitoring wells T21, T22, T28, T29 T30 to the east of the northern gas curtain are monitored on a monthly basis over the coming twelve months to provide a better understanding of localised gassing conditions.
- Several List II determinands and indicator parameters were reported at concentrations elevated above their trigger and control level in background groundwaters in the Tullos Hill area over the last twelve months. It is recommended that background groundwater is monitored for a further twelve months to confirm that the increase in concentrations reported represent a short term and not a long term change in chemical composition.
- To optimise the performance of the gas vents on-site, more regular maintenance in the form of grass cutting and weed control is recommended, particularly throughout the summer months.
- Should elevated chemical concentrations be recorded over the forthcoming twelve month period, a topographical survey of the base and extents of East Tullos Burn is recommended to investigate hydraulic continuity between groundwater within Ness Farm landfill and the burn.
- It is recommended that the leachate level in the environmental monitoring well adjacent to the active Leachate Redistribution Area (i.e.1 - 4) is monitored on a regular basis to confirm that the level is not approaching or exceeding its trigger level and actions detailed in the Operations Manual observed.
- It was noted in June 2016 that sediment and ‘scum’ was present within the manholes of leachate redistribution area 4 and could potentially be present in the connected perforated distribution pipes. As such, it is recommended that maintenance in the form of cleansing is undertaken prior to further utilisation of Area 4 for leachate re-distribution.

9.0 ENVIRONMENTAL MONITORING STRATEGY

It is recommended that environmental monitoring is continued in accordance with the Environmental Monitoring Plan, Ness Farm Landfill (Ref. 1), approved by SEPA in October 2014. No amendments are currently deemed necessary.

10.0 REFERENCES

1. Fairhurst, (October 2014) Environmental Monitoring Plan. Document Ref. D/I/D/55496/113 Issue 5.
2. W A Fairhurst & Partners (May 2008) Ness Farm Landfill Gas Management Plan. Document Ref. D/I/D/55496/54/A
3. Fairhurst (June 2009) Tullos Hill Landfill Gas Management Plan. Document Ref. D/I/D/55496/028/C
4. Fairhurst (July 2006) Ness Farm Landfill Hydrogeological Risk Assessment. Document Ref. D/I/D/55496/23.
5. Fairhurst (June 2007) Tullos Hill Landfills Hydrogeological Risk Assessment. Document Ref. D/I/D/55496/53.
6. Fairhurst (June 2009) Ness Farm & Tullos Hill Landfills Leachate Management Plan. Document Ref. D/I/D/55496/029/C.
7. Galson Sciences Ltd (2000) Tritium in Scottish Landfill Sites
8. CIRIA 665, Assessing risks posed by hazardous ground gases to buildings, 2007
9. W A Fairhurst & Partners (June 2008) Ness Farm Landfill Containment Engineering and Stability Risk Assessment. Document Ref. D/I/D/55496/44/A.

APPENDIX A:

DRAWINGS

Drawing No.	Drawing Title
55496/8002	Leachate Drainage Masterplan
55496/8003	Gas Management Masterplan
55496/8007	Ness Area of Ness Farm Landfill, Restoration Phasing Plan
55496/8012	Monitoring Masterplan
55496/8017 A	Groundwater Contours

100m @ 1:1250 Scale

DETAIL B

Gravity Pipe to Leachate Re-distribution Areas 1, 2 & 3

Gravity Pipe to Leachate Re-distribution Area 4

RISING MAIN FROM PC1

RISING MAIN FROM PC2

Valve VZ24

Valve VZ25

Valve VZ22A

Valve VZ22

Flowmeter FM22E

Flowmeter FM22F

SP22

SP22A

SP22B

Valve VZ26

Valve VZ27

Valve VZ28

Valve VZ29

Flowmeter FM22C

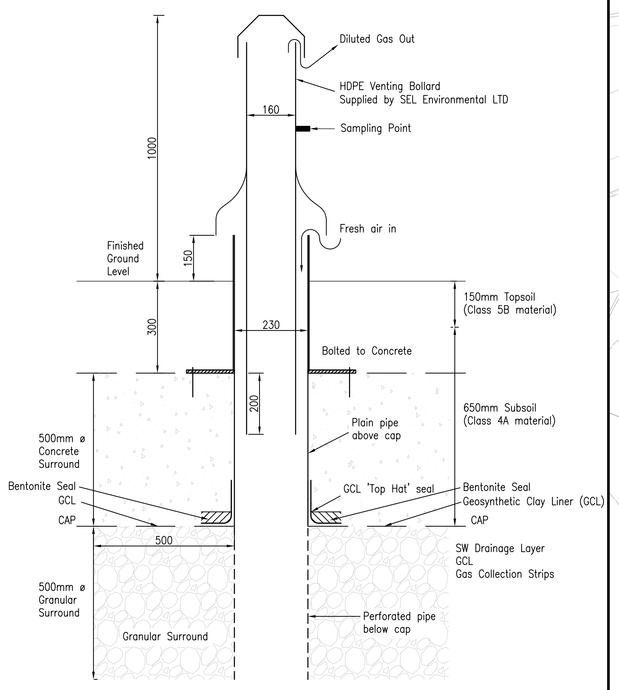
Flowmeter FM22D

SP22C

SP22D

Detail B
Schematic Diagram of Rising Main and Gravity Pipe Connections (NTS)

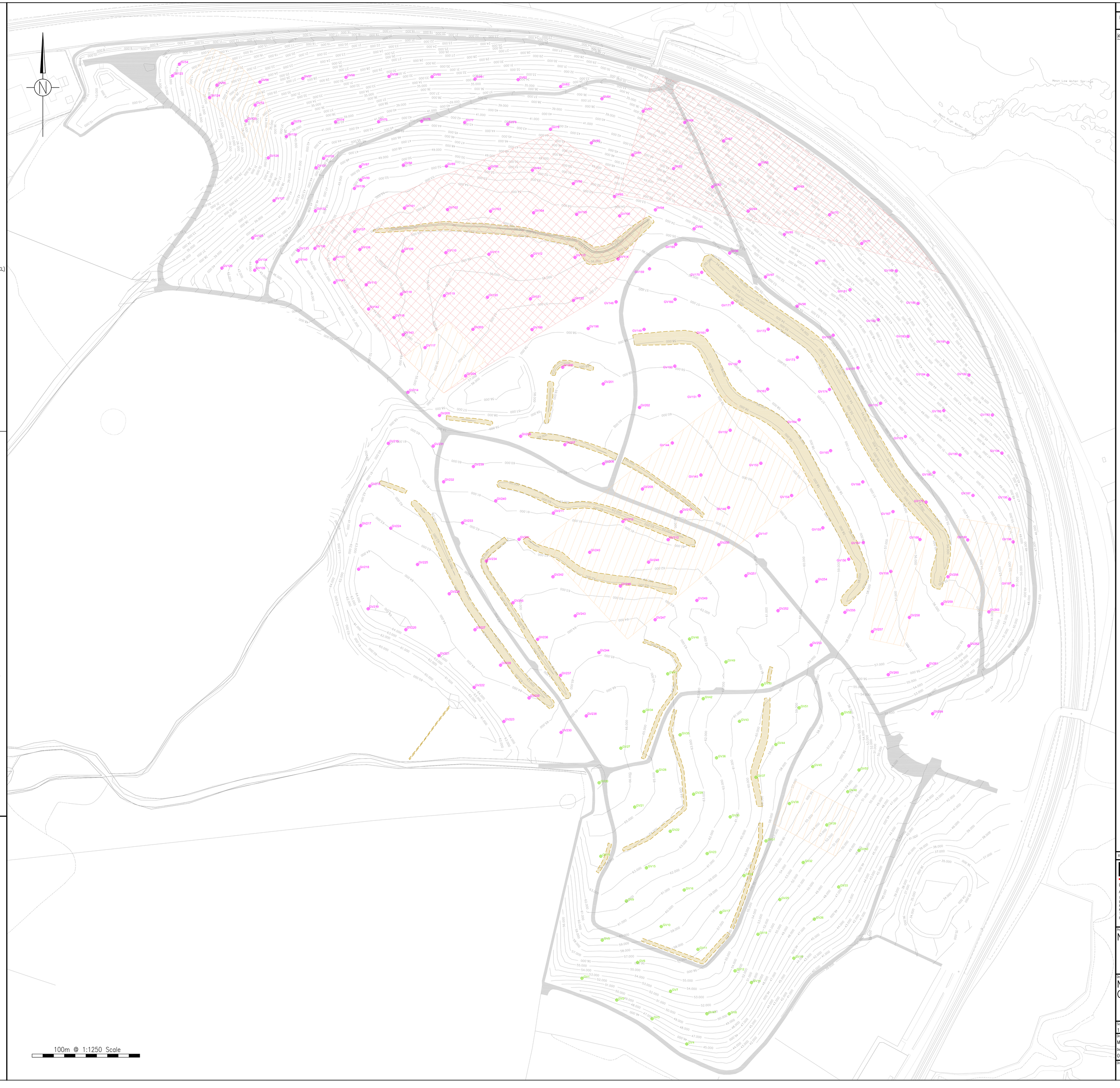
LA3	ACCESS ROAD	396662.300	8027F2.800	45.97F	1.010	44.969	1200mm Reg	Upper Chamber (PC2)
SP36C		396013.446	8039982.764	61.13	1.75	59.38	1200mm Reg	Upper Mid
SP36B		396024.204	8039975.726	60.275	1.715	58.56	1200mm Reg	Upper Mid
SP36A		396054.479	8039989.865	39.756	1.58	38.176	1200mm Reg	Upper Mid
FP0		396020.082	8039989.300	45.005	1.365	43.640	1200mm Reg	
FP1		396054.082	8040233.009	37.264	1.889	35.375	1200mm Reg	
FP2		396018.647	8040490.002	13.713	1.889	11.824	1200mm Reg	
FP3		396006.436	8040655.107	17.526	1.775	15.751	1200mm Reg	
FP4		396013.189	8040655.027	20.323	2.045	18.278	1200mm Reg	
FP5		396163.376	8040657.069	21.434	2.732	18.702	1200mm Reg	
FP6		396220.197	8040655.587	21.197	1.826	21.371	1200mm Reg	
FP7		396249.294	8040655.193	23.382	1.537	22.225	1200mm Reg	
FP8		396253.166	8040653.436	25.334	1.840	23.494	1200mm Reg	
FP9		396133.417	8040653.409	27.289	3.825	23.614	1200mm Reg	
FP10		396077.742	8040432.893	28.634	4.262	23.742	1200mm Reg	
FP11		396056.088	8040431.779	28.037	4.158	23.899	1200mm Reg	
FP12		396053.824	8040432.452	28.153	4.713	24.247	1200mm Reg	
FP13		396053.656	8040432.827	28.300	4.213	24.247	1200mm Reg	
FP14		396053.575	8040433.271	28.153	2.470	24.083	1200mm Reg	
FP15		396133.478	8040416.161	28.875	2.460	24.070	1200mm Reg	
FP16		396133.742	8040416.409	27.289	3.825	23.614	1200mm Reg	
FP17		396077.423	8039023.279	61.283	1.360	59.873	1200mm Reg	
FP18		396073.459	8039473.192	41.173	1.300	39.783	1200mm Reg	
FP19		396052.082	8039473.300	45.005	1.365	43.640	1200mm Reg	
FP20		396054.079	8039989.865	39.756	1.58	38.176	1200mm Reg	
FP21		396013.446	8039982.764	61.13	1.75	59.38	1200mm Reg	Upper Mid
SP36D		396024.204	8039975.726	60.275	1.715	59.06	1200mm Reg	Upper Mid
FP22		396054.086	8040155.078	59.696	4.138	55.560	1200mm Reg	
SP37		396053.854	8040156.901	59.696	4.041	55.655	1200mm Reg	Upper Mid
SP38		396053.661	8040156.063	59.751	4.457	55.294	1200mm Reg	Upper Mid
FP23		396053.611	8040156.063	59.751	4.457	55.294	1200mm Reg	Upper Mid
FP24		396053.611	8040156.063	59.751	4.457	55.294	1200mm Reg	Upper Mid
FP25		396053.611	8040156.063	59.751	4.457	55.294	1200mm Reg	Upper Mid



Detail 3 – Gas Vents GV54 – GV197
Scale: NTS

Detail 2 – Gas Vents GV1 – GV53
Scale: NTS

Detail 1 – Geocomposite Gas Collection Strip Layout Below Capping
Scale 1:500



SAFETY HEALTH AND ENVIRONMENTAL INFORMATION

FOR INFORMATION RELATING TO USE, CLEANING AND MAINTENANCE SEE THE HEALTH AND SAFETY FILE

Key:

- GV70 — Gas Vent (Detail 3)
- GV1 — Gas Vent (Detail 2)
- Access tracks/ hardstanding
- Indicative extent of asbestos cells below cap
- Indicative extent of low-level radioactive waste cells below cap
- Finished level contours (mAOD)
- Ditch/ Swale

Rev.	Date	Description	Drwn.	Chkd.	Appd.

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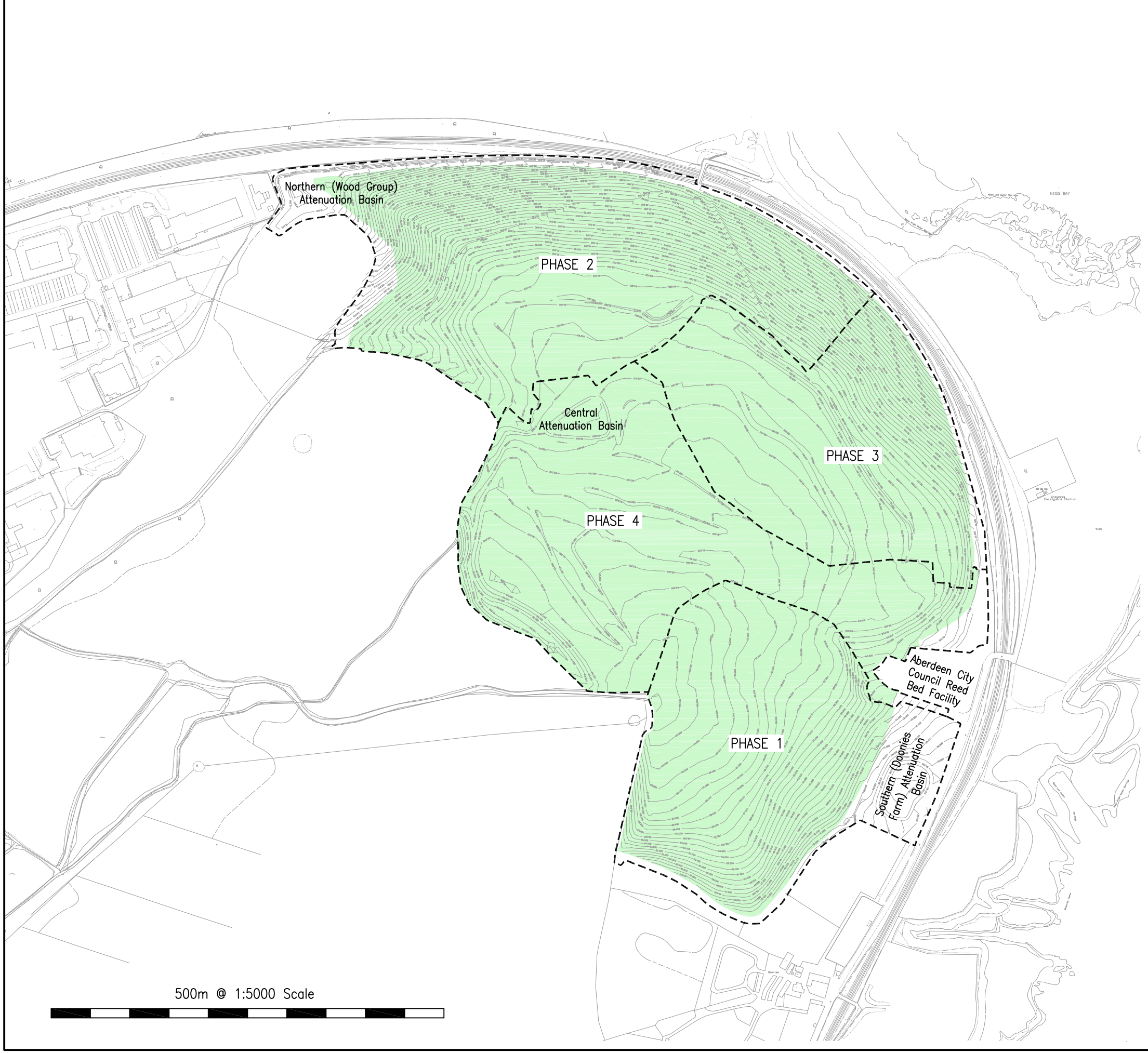
Project Title:
NESS FARM LANDFILL

Drawing Title:
NESS AREA OF NESS FARM LANDFILL GAS MANAGEMENT MASTER PLAN

Scale @ A0:	Status:	CAD File Name:
1:1250	INFORMATION	pc08003-..dwg
Drawn: MH	Checked: DD	Approved: AJL
Date: 06/03/12	Date: 15/04/13	Date: 22/07/13

Drawing No.: 55496/8003 Revision: –



SAFETY HEALTH AND ENVIRONMENTAL INFORMATION

FOR INFORMATION RELATING TO USE, CLEANING AND MAINTENANCE SEE THE HEALTH AND SAFETY FILE

Key:

- Restoration phase boundary
- Capping boundary

Rev.	Date	Description	Drwn.	Chkd.	Appd.

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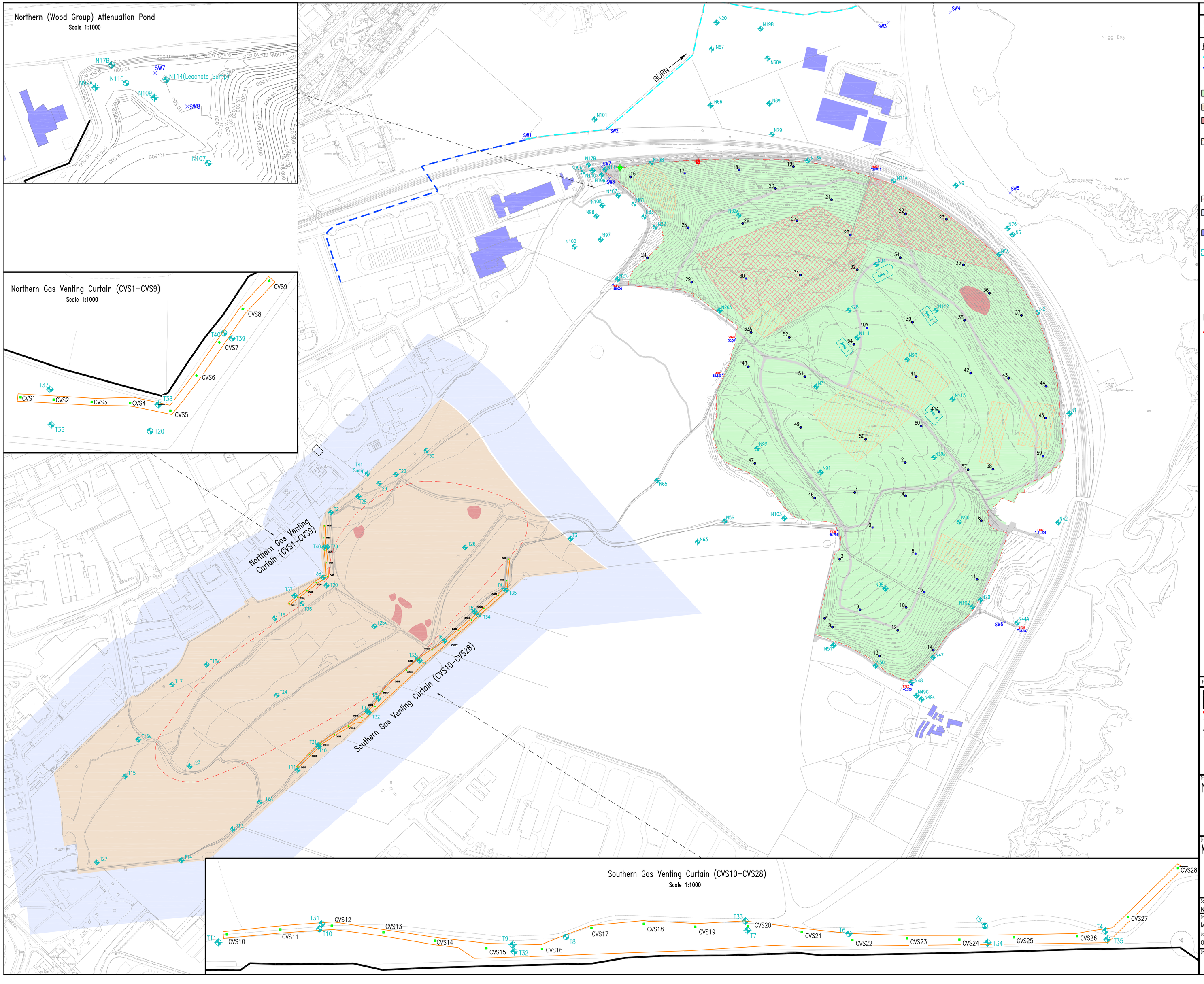
Project Title:
NESS FARM LANDFILL

Drawing Title:
NESS AREA OF
NESS FARM LANDFILL
RESTORATION PHASING PLAN

Scale at A3:	Status:	CAD File Name:
1:5000	INFORMATION	pc08007-.dwg
Drawn:	**Checked:**	**Approved:**
DD	LY	AJL
Date:	**Date:**	**Date:**
26/11/12	10/04/13	22/07/13

Drawing No.: 55496/8007

Revision: –



SAFETY HEALTH AND ENVIRONMENTAL INFORMATION

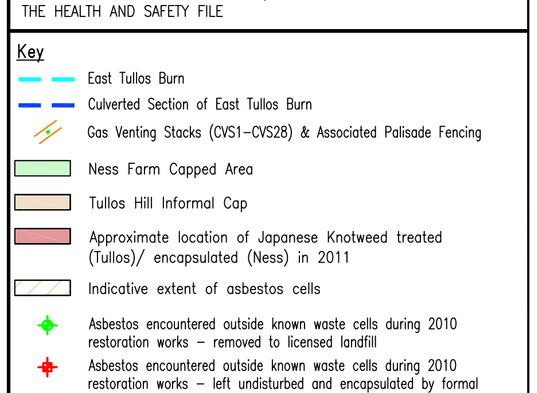
FOR INFORMATION RELATING TO USE, CLEANING AND MAINTENANCE SEE THE HEALTH AND SAFETY FILE

Key

- East Tullos Burn
- Culverted Section of East Tullos Burn
- Gas Venting Stacks (CVS1–CVS28) & Associated Palisade Fencing
- Ness Farm Capped Area
- Tullos Hill Informal Cap
- Approximate location of Japanese Knotweed treated (Tullos)/ encapsulated (Ness) in 2011
- Indicative extent of asbestos cells
- Asbestos encountered outside known waste cells during 2010 restoration works – removed to licensed landfill
- Asbestos encountered outside known waste cells during 2010 restoration works – left undisturbed and encapsulated by formal landfill cap
- Indicative extent of low-level radioactive waste cells
- Buildings and properties (receptors) within 100m of the Tullos Hill boundary potentially at risk from landfill gases
- Commercial/Industrial/Residential Sensitive Receptors to gas migration
- Leachate re-distribution areas
- 35 Settlement monitoring point (Detail A)
- Environmental monitoring wells
- Surface water monitoring points
- Access Tracks/ Hardstanding
- Indicative Waste Boundary
- LT22 External Survey Stations

External Survey Station Co-ordinates:External

Station	Easting	Northing
WA3	395932.445	804228.527
WA25	396407.394	804440.626
LT02	396708.540	803773.107
LT06	396676.327	803593.411
LT22	396480.088	803493.311
STD8	396345.695	803774.212
9003	396133.971	804062.390
9996	396157.863	804127.632



Detail A – Settlement Monitoring Station Detail

Rev.	Date	Description	Drwn.	Chkd.	Appd.

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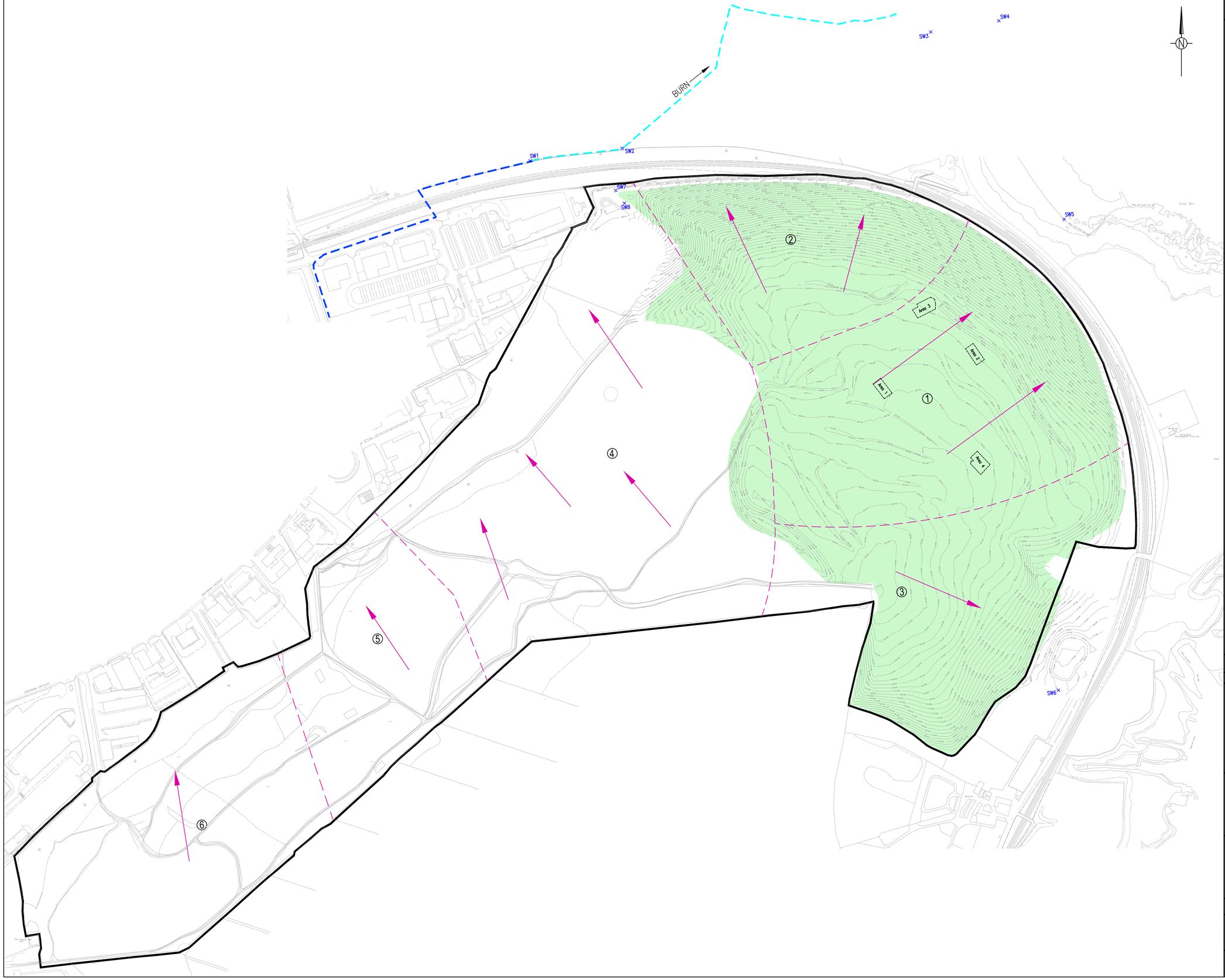
Project Title:
NESS FARM LANDFILL

Drawing Title:
MONITORING MASTERPLAN

Scale at A1:	Status:	CAD File Name:
NTS	INFORMATION	pc08012–.dwg
Drawn:	Checked:	Approved:
MH	DD	AJL
Date:	Date:	Date:
01/06/12	16/04/13	22/07/13

Drawing No.: 55496/8012 Revision: –



SAFETY HEALTH AND ENVIRONMENTAL INFORMATION

FOR INFORMATION RELATING TO USE, CLEANING AND MAINTENANCE SEE THE HEALTH AND SAFETY FILE

Key

- Site Boundary
- Ness Farm Capped Area/ Waste Boundary
- Leachate Re-distribution Areas
- N101 Environmental Monitoring Wells
- Surface Water Monitoring Points
- Direction of Groundwater Flow
- Catchment Area Boundaries
- East Tullos Burn (Alignment Amended in 2014. New alignment subject to confirmation)
- Culverted Section of East Tullos Burn

① Central Catchment
② Northern Catchment
③ Southern Catchment
④ Central Area Catchment
⑤ Eastern Tullos Hill Catchment
⑤ Western Tullos Hill Catchment

Rev.	Date	Description	Drwn.	Chkd.	Appd.
A	11/06/13	GROUNDWATER CONTOURS REMOVED	DD	AJL	AJL

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Project Title:
NESS FARM LANDFILL

Drawing Title:
GROUNDWATER CONTOURS

Scale at A1:	Status:	CAD File Name:
NTS	INFORMATION	pc08017a.dwg
Drawn: DD Date: 20/03/13	Checked: LY Date: 10/04/13	Approved: AJL Date: 22/07/13

Drawing No.: 55496/8017 Revision: A

APPENDIX B:

MONITORING SCHEDULE

Ness Area of Ness Farm Landfill
Environmental Monitoring Summary

MONITORING POINT	INTERNAL OR EXTERNAL TO LANDFILL	APPROX. DEPTH (m)	MONITORING REQUIREMENTS																						
			MONTHLY	QUARTERLY				BI-ANNUALLY					ANNUAL													
			Gas (Table 5)	Gas (Table 5)	Groundwater / Leachate Level	Surface Water Quality (Tables 4 & 6)	Free Product Thickness	Gas (Table 5)	Groundwater / Leachate Level	Groundwater/ Leachate Quality (Tables 2, 3 & 6)	Free Product Thickness	Tritium	Gas (Table 5)	Groundwater/ Leachate Quality (Tables 2, 3 & 6)	Free Product Thickness	Tritium	JUN.	JUL.	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY
NESS FARM																											
N1	External	3.0						X	X		X					X	5						5				
N2	External	3.0						X	X		X					X	5						5				
N5A	External	9.2						X	X		X					X	5						5				
N11A	External	8.5		X	X		X			X		X					2A,2B,5,6			5			2A,2B,5,6			5	
N13A	External	6.0		X	X		X									X	5			5			5			5	
N15B	External	18.0						X	X		X					X	5						5				
N17B	External	10.0						X	X		X					X	5						5				
N19B	External	10.0							X	X	X	X					2A,2B,6, L						2A,2B,6, L				
N20	External	15.0							X		X						L						L				
N21	External	16.0						X	X		X					X	5						5				
N22	External	22.5						X	X		X					X	5						5				
N26A	External	8.0						X	X		X					X	5						5				
N28	Internal	18.5						X	X		X			X		X	3A,3B,3C,5,6						5				
N31	Internal	18.0						X	X		X			X		X	3A,3B,3C,5,6						5				
N39A	Internal	17.5						X	X		X			X		X	3A,3B,3C,5,6						5				
N42	External	5.0						X	X		X					X	5						5				
N44A	External	7.4						X	X		X					X	5						5				
N47	External	7.0		X	X		X			X		X					2A,2B,5,6			5			2A,2B,5,6			5	
N48	External	8.5		X	X		X										5			5			5			5	
N49C	External	4.6		X	X		X			X		X					2A,2B,5,6			5			2A,2B,5,6			5	
N50	External	8.0		X	X		X			X		X					2A,2B,5,6						2A,2B,5,6				
N51	External	3.0						X	X		X					X	5						5				
N62A	Internal	15.0						X	X		X			X		X	3A,3B,3C,5,6						5				
N63	External	8.0						X	X	X	X	X					2A,2B,5,6						2A,2B,5,6				
N65	External	12.0							X	X	X	X					2A,2B, 6, L						2A,2B, 6, L				
N66	External	4.5							X	X	X	X					2A,2B,6, L						2A,2B,6, L				
N67	External	11.0							X		X						L						L				
N68A	External	10.5							X		X						L						L				
N69	External	15.0							X		X						L						L				
N70	External	12.0						X	X	X	X	X					2A,2B,5,6						2A,2B,5,6				
N76	External	15.0							X	X	X	X					2A,2B,6,L						2A,2B,6,L				
N79	External	20.0		X	X		X									X	5			5			5			5	
N81	External	9.4						X	X		X					X	5						5				
N83	External	9.8						X	X		X					X	5						5				
N89	Internal	16.0						X	X		X			X		X	3A,3B,3C,5,6						5				
N90	Internal	14.0						X	X		X			X		X	3A,3B,3C,5,6						5				
N91	Internal	4.9						X	X		X			X		X	3A,3B,3C,5,6						5				
N92	Internal	4.5						X	X		X			X		X	3A,3B,3C,5,6						5				
N93	Internal	19.4						X	X		X			X		X	3A,3B,3C,5,6						5				
N94	Internal	18.7						X	X		X			X		X	3A,3B,3C,5,6						5				
N98	External	12.0		X	X		X										5			5			5			5	
N99A	External	10.0		X	X		X										5			5			5			5	
N102	Leachate MH F15	N/A												X	X	X	3A,3B,3C,6										
N103	External	5.0						X	X	X	X	X					2A,2B,5,6						2A,2B,5,6				
N107	External	13.1		X	X		X										5			5			5			5	
N108	External	10.0		X	X		X										5			5			5			5	
N111	Internal	17.5						X	X		X			X		X	3A,3B,3C,5,6						5				
N112	Internal	20.0						X	X		X			X		X	3A,3B,3C,5,6						5				
N113	Internal	12.2						X	X		X			X		X	3A,3B,3C,5,6						5				
N114	Leachate Manhole F40	N/A												X	X	X	3A,3B,3C,6										
NESS FARM GAS VENT STACKS																											
GV 1-264	Internal	-						X									5						5				

2A Groundwater monitoring - Table 2A
2B Groundwater monitoring - Table 2B
3A Leachate monitoring - Table 3A
3B Leachate monitoring - Table 3B
3C Leachate monitoring - Table 3C
5 Gas Monitoring - Table 5
6 Groundwater, leachate & surface water monitoring - Table 6
L Groundwater levels

Tullos Hill Area of Ness Farm Landfill
Environmental Monitoring Summary

MONITORING POINT	INTERNAL OR EXTERNAL TO LANDFILL	APPROX. DEPTH (m)	MONITORING REQUIREMENTS																						
			MONTHLY	QUARTERLY				BI-ANNUALLY					ANNUAL													
			Gas (Table 5)	Gas (Table 5)	Groundwater / Leachate Level	Surface Water Quality (Tables 4 & 6)	Free Product Thickness	Gas (Table 5)	Groundwater / Leachate Level	Groundwater/ Leachate Quality (Tables 2, 3 & 6)	Free Product Thickness	Tritium	Gas (Table 5)	Groundwater/ Leachate Quality (Tables 2, 3 & 6)	Free Product Thickness	Tritium	JUN.	JUL.	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY
TULLOS HILL																											
T3	External	5.0						X	X		X						5						5					
T4	External	11.5						X	X		X						5						5					
T5	External	7.0						X	X		X						5						5					
T6	External	9.0						X	X		X						5						5					
T7	External	7.5	X						X		X						5	5	5	5	5	5	5	5	5	5	5	5
T8	Internal	7.5						X	X		X						5						5					
T9	Internal	6.0						X	X		X			X			3A,3B,3C,5,6						5					
T10	External	6.5	X						X		X						5	5	5	5	5	5	5	5	5	5	5	5
T11	External	4.0						X	X		X						5						5					
T12A	External	10.5						X	X	X	X						2A,2B,5,6						2A,2B,5,6					
T13	External	4.5						X	X		X						5						5					
T14	External	4.5						X	X		X						5						5					
T15	External	13.5						X	X	X	X						2A,2B,5,6						2A,2B,5,6					
T16A	External	10.5						X	X		X						5						5					
T17	External	10.5						X	X	X	X						2A,2B,5,6						2A,2B,5,6					
T18A	External	9.5						X	X		X						5						5					
T19	External	15.0						X	X	X	X						2A,2B,5,6						2A,2B,5, 6					
T20	Internal	11.5						X	X	X	X						2A,2B,5,6						2A,2B,5,6					
T21	External	9.5						X	X	X	X						2A,2B,5,6						2A,2B,5,6					
T22	External	12.0						X	X	X	X						2A,2B,5,6						2A,2B,5,6					
T23	Internal	5.5						X	X		X			X			3A,3B,3C,5,6						5					
T24	Internal	6.0						X	X		X			X			3A,3B,3C,5,6						5					
T25A	Internal	5.0						X	X		X			X			3A,3B,3C,5,6						5					
T26	Internal	9.0						X	X		X			X			3A,3B,3C,5,6						5					
T27	External	15.0						X	X	X	X						2A,2B,5,6						2A,2B,5,6					
T28	External	16.0						X	X		X						5						5					
T29	External	13.0						X	X		X						5						5					
T30	External	16.5						X	X		X						5						5					
T31	External	6.1						X	X		X						5						5					
T32	External	6.1	X						X		X						5	5	5	5	5	5	5	5	5	5	5	5
T33	External	7.3						X	X		X						5						5					
T34	External	8.7	X						X		X						5	5	5	5	5	5	5	5	5	5	5	5
T35	External	10.0	X						X		X						5	5	5	5	5	5	5	5	5	5	5	5
T36	Internal	10.0						X	X		X						5						5					
T37	External	10.2	X						X		X						5	5	5	5	5	5	5	5	5	5	5	5
T38	External	9.3	X						X		X						5	5	5	5	5	5	5	5	5	5	5	5
T39	Internal	14.7						X	X		X						5						5					
T40	External	14.3	X						X		X						5	5	5	5	5	5	5	5	5	5	5	5
T41	Sump	N/A								X	X						3A,3B,3C,6						3A,3B,6					
GAS VENT STACKS																											
NORTHERN GAS CURTAIN																											
CVS1 - 9	Internal	-						X									5						5					
SOUTHERN GAS CURTAIN																											
CVS10 -	Internal	-						X									5						5					

2A Groundwater monitoring - Table 2A
2B Groundwater monitoring - Table 2B
3A Leachate monitoring - Table 3A
3B Leachate monitoring - Table 3B
3C Leachate monitoring - Table 3C
5 Gas Monitoring - Table 5
6 Groundwater, leachate & surface water monitoring - Table 6

Ness Farm Landfill
Surface Waters
Environmental Monitoring Summary

MONITORING POINT	INTERNAL OR EXTERNAL TO LANDFILL	APPROX. DEPTH (m)	MONITORING REQUIREMENTS																							
			MONTHLY	QUARTERLY				BI-ANNUALLY					ANNUAL				JUN.	JUL.	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY
			Gas (Table 5)	Gas (Table 5)	Groundwater / Leachate Level	Surface Water Quality (Tables 4 & 6)	Free Product Thickness	Gas (Table 5)	Groundwater / Leachate Level	Groundwater/ Leachate Quality (Tables 2, 3 & 6)	Free Product Thickness	Tritium	Gas (Table 5)	Groundwater/ Leachate Quality (Tables 2, 3 & 6)	Free Product Thickness	Tritium												
SURFACE WATERS																											
SW1	External	-				X					X						4A,4B,6			4A,4B,6			4A,4B,6			4A,4B,6		
SW2	External	-				X					X						4A,4B,6			4A,4B,6			4A,4B,6			4A,4B,6		
SW3	External	-				X					X						4A,4B,6			4A,4B,6			4A,4B,6			4A,4B,6		
SW4	External	-				X					X						4A,4B,6			4A,4B,6			4A,4B,6			4A,4B,6		
SW5	External	-				X					X						4A,4B,6			4A,4B,6			4A,4B,6			4A,4B,6		
SW6	Control Chamber 3	-				X					X						4A,4B,6			4A,4B,6			4A,4B,6			4A,4B,6		
SW7	Manhole 201A	-				X					X						4A,4B,6			4A,4B,6			4A,4B,6			4A,4B,6		
SW8	Manhole 216A	-				X					X						4A,4B,6			4A,4B,6			4A,4B,6			4A,4B,6		

4A Surface Water monitoring - Table 4A
4B Surface Water monitoring - Table 4B
6 Groundwater, leachate & surface water monitoring - Table 6

Groundwater

Table 2A

	Detection Limits (mg/l)	*Control Levels (mg/l)*	*Source*
Water level	5mm		
pH			
Temperature	0.1 ℃		
Electrical Conductivity	1400		

Table 2B

	Detection Limits (mg/l)	*Control Levels (mg/l)*	*Source*
Dissolved Oxygen	-		
Ammonium (NH_4-N)	0.4	0.5	A
Chloride	225	250	A
Sulphate	225	250	A
Water Hardness (as $CaCO_3$)	-		
Total Organic Nitrogen	-		
Total Organic Carbon	-		
Sodium	180	200	A
Potassium	11	12	A
Calcium	225	250	A
Magnesium	45	50	A
Iron	0.1	0.2	A
Manganese	0.04	0.05	A
Cadmium	0.1µg/l	0.1µg/l	MRV 1
Chromium	0.04	0.05	A
Copper	1	2	A
Nickel	0.01	0.02	A
Lead	0.009	0.01	A
Zinc	4	5	A

1 – Assessment Criteria varies depending on water hardness.

MRV 1 – Achievable Minimum Reporting Values. From information received from Environment Agency National Laboratory.

MRV 2 – Typical Minimum Reporting Values. From Environment Agency (2003) Hydrogeological Risk Assessment for Landfills.

A. UK Drinking Water Standards (2001)

B. World Health Organisation (2003) Guidelines for Drinking Water Quality, 3rd Edition.

C. Environment Agency (2001) Environmental Quality Standards (EQS)

D. Dutch Circular on Target Values & Intervention Values for Soil Remediation (2000)

E. State of Maryland Department of the Environment. Cleanup Standards for Soil and Groundwater (2001)

Leachate

Table 3A

	Detection Limits (mg/l)	*Control Levels (mg/l)*	*Source*
Leachate level	-	-	
pH	-	-	
Temperature	0.1 ℃	-	
Electrical Conductivity	1400	-	

Table 3B

	Detection Limits (mg/l)	*Control Levels (mg/l)*	*Source*
Chloride	225	250	A
Ammonium (NH_4-N)	0.4	0.5	A
Sulphate	225	250	A
Alkalinity	-		
Chemical Oxygen Demand	-		
Biological Oxygen Demand	-		
Total Organic Nitrogen	-		
Total Organic Carbon	-		
Sodium	180	200	A
Potassium	11	12	A
Calcium	225	250	A
Magnesium	45	50	A

Table 3C

	Detection Limits (mg/l)	*Control Levels (mg/l)*	*Source*
Iron	0.1	0.2	A
Manganese	0.04	0.05	A
Cadmium	0.1µg/l	0.1µg/l	MRV 1
Chromium	0.04	0.05	A
Copper	1	2	A
Nickel	0.01	0.02	A
Lead	0.009	0.01	A
Zinc	4	5	A

1 – Assessment Criteria varies depending on water hardness.
MRV 1 – Achievable Minimum Reporting Values. From information
MRV 2 – Typical Minimum Reporting Values. From Environment

A. UK Drinking Water Standards (2001)

B. World Health Organisation (2003) Guidelines for Drinking Water Quality, 3rd Edition.

C. Environment Agency (2001) Environmental Quality Standards (EQS)

D. Dutch Circular on Target Values & Intervention Values for Soil Remediation (2000)

E. State of Maryland Department of the Environment. Cleanup Standards for Soil and Groundwater (2001)

Surface Water

Table 4A

	Detection Limits (mg/l)	*Control Levels (mg/l)*	*Source*
pH	-	-	
Temperature	0.1 ℃	-	
Electrical Conductivity	1400 mS/cm	-	
Dissolved Oxygen	-	-	
Ammonium (NH_4-N)	0.4	0.5	A
Chloride	225	250	A
Disolved Oxygen	-	-	
Total Suspended Solids	-	-	
Biochemical Oxygen Demand	-	-	
Chemical Oxygen Demand	-	-	

Table 4B

	Detection Limits (mg/l)	*Control Levels (mg/l)*	*Source*
Total Suspended Solids	-		
Dissolved Oxygen	-		
Sulphate	225	250	A
Total Organic Nitrogen	-		
Total Organic Carbon	-		
Sodium	180	200	A
Potassium	11	12	A
Calcium	225	250	A
Magnesium	45	50	A
Iron	0.1	0.2	A
Manganese	0.04	0.05	A
Cadmium	0.1µg/l	0.1µg/l	MRV 1
Chromium	0.04	0.05	A
Copper	1	2	A
Nickel	0.01	0.02	A
Lead	0.009	0.01	A
Zinc	4	5	A

1 – Assessment Criteria varies depending on water hardness.

MRV 1 – Achievable Minimum Reporting Values. From information received from Environment Agency National Laboratory.

MRV 2 – Typical Minimum Reporting Values. From Environment Agency (2003) Hydrogeological Risk Assessment for Landfills.

A. UK Drinking Water Standards (2001)

B. World Health Organisation (2003) Guidelines for Drinking Water Quality, 3rd Edition.

C. Environment Agency (2001) Environmental Quality Standards (EQS)

D. Dutch Circular on Target Values & Intervention Values for Soil Remediation (2000)

E. State of Maryland Department of the Environment. Cleanup Standards for Soil and Groundwater (2001)

Landfill Gas

Table 5

	Detection Limits (%)
Methane	0.1
Carbon Dioxide	0.1
Oxygen	0.1
Atmospheric Pressure	10mB
Other meteorological data	-
Temperature	0.1 ℃
Gas Pressure / Flow Rate	1 L/hr

Leachate, Groundwater and Surface Water Monitoring

Table 6

	Detection Limits (mg/l)	*Environmental Acceptance Levels (mg/l)*	*Source*
Indicator Parameters			
Hardness, Calcium as CaCO3			
Nitrogen, Total oxidised as N			
List I Substances			
PCBs / PCTs	0.0000045	0.000005	MRV 1
Chlorobenzene	0.2	0.3	B
Trichloroethene	0.00009	0.0001	MRV 1
Tetrachloroethene	0.00009	0.0001	MRV1
Dichloroprop	0.00009	0.0001	A
Mercury	0.000009	0.00001	MRV 1
Cadmium	0.00009	0.0001	MRV 1
Cyanide	0.04	0.05	A
Benzo(a)Pyrene	0.000009	0.00001	A
2,4-Dimethylphenol	0.65	0.73	E
4-Methylphenol	0.16	0.18	E
Acenaphthene	2.3	2.57	D
Acenaphthylene	3.6	4	D
Anthracene	0.06	0.071	D
Bentazone	0.09	0.1	A
Benzene	0.0009	0.001	MRV2
Benzo(ghi)perylene	0.00017	0.00019	D
Benzo(a)anthracene	0.01	0.012	D
Benzo(b)fluoranthene	0.015	0.017	D
Benzo(k)fluoranthene	0.00043	0.00048	D
Bis(2-ethylhexyl)phthalate	0.0043	0.0048	E
Chrysene	0.0016	0.0018	D
Cis-1,2-dichloroethene	0.054	0.061	E
Dibenz(a,h)anthracene	0.00074	0.00083	D
Ethylbenzene	5.04 mg/l	5.6mg/l	D
Fluoranthene	0.18	0.2	D
Fluorene	1.98	2.2	E
Indeno(1,2,3-cd)pyrene	0.00023	0.00026	D
Mecoprop	0.000036	0.00004	MRV 2
MTBE	0.002	0.0026	E
Naphthalene	0.009	0.01	C
Pyrene	0.09	0.106	D
m,p-xylene	0.0027	0.003	MRV 2
o-xylene	0.0027	0.003	MRV 2
List II Substances			
Selenium	0.009	0.01	A
Arsenic	0.009	0.05	A
Antimony	0.004	0.005	A
Molybdenum	0.06	0.07	B
Titanium			
Barium	0.9	1	A
Beryllium	0.009	0.015	D
Boron	0.9	1	A
Uranium	0.008	0.009	B
Vanadium	0.01	0.02 – 0.06 1	C
Cobalt	0.2	0.361	D
Thallium	0.006	0.007	D
Tellurium	0.06	0.07	D
TPH	0.001	0.01	A
Chloroethane	0.0032	0.0036	E
Fenoprop	0.00009	0.0001	A
Fluoride	1.35	1.5	A
Nitrate	45	50	A
Total PAH	0.00009	0.0001	A
Phenanthrene	0.765	0.85	D
Phosphorous (Total Inorganic)	1.98	2.2	A

1 – Assessment Criteria varies depending on water hardness.

MRV 1 – Achievable Minimum Reporting Values. From information received from Environment Agency National Laboratory.

MRV 2 – Typical Minimum Reporting Values. From Environment Agency (2003) Hydrogeological Risk Assessment for Landfills.

A. UK Drinking Water Standards

B. World Health Organisation (WHO) (1984) *Guidelines for Drinking Water Quality*

C. SEPA (2004) Environmental Quality Standards

D. Dutch National Institute of Public Health & the Environment (2001) *Technical Evaluation of the Intervention Values for Soil / Sediment & Groundwater*

E. USEPA (2004) *Human Health Screening Levels*

F. Environment Agency (2001) *The Fuel Additive MTBE - A Groundwater Protection Issue?*

APPENDIX C:

MONITORING DATA

C1 - Ness Farm In-Situ Monitoring

C2 – Tullos Hill In-Situ Monitoring

C3 – Surface Water Monitoring Results

C4 – Ness Farm Annual Chemical Data

C5 – Tullos Hill Annual Chemical Data

C6 – Surface Water Annual Chemical Data

C7 – Tullos Hill CVS Monitoring

C8 – Ness Farm Phase 1 Passive Gas Vent Monitoring

C9 – Ness Farm Phase 2 Passive Gas Vent Monitoring

C10 – Ness Farm Phase 3 Passive Gas Vent Monitoring

C11 – Ness Farm Phase 4 Passive Gas Vent Monitoring

C11 – Settlement Monitoring Data

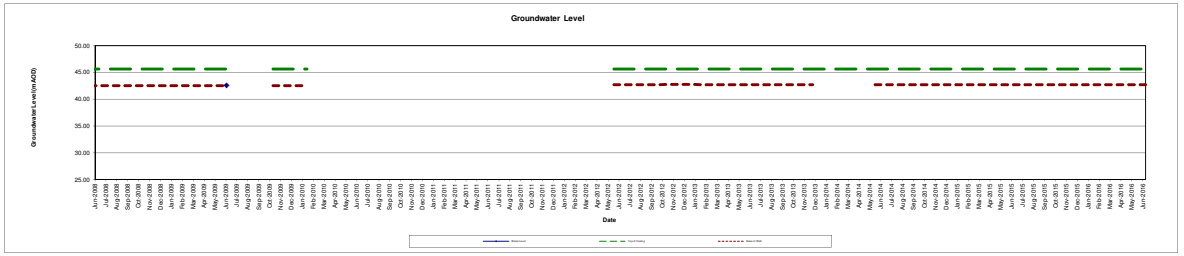
APPENDIX C:

C1 - Ness Farm In-Situ Monitoring

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N1																		
Type Of Sample Required	Leachate	23/06/04	05/08/04	25/08/04	27/09/04	05/11/04	17/11/04	15/12/04	26/01/05	10/03/05	21/04/05	15/05/05	01/07/05	21/07/05	15/08/05	15/09/05	28/10/05	16/11/05	08/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	3.05	3.04	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	3.05
Borehole depth to top of casing	m	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14
Top of casing relative to Ordnance Datum Level	m	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66
Water level relative to Ordnance Datum	m	42.61	42.62																42.61
Calculated purge volume	litres	0.72	0.80																0.72
Base of Well relative to Ordnance Datum		42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52
Gas Concentrations																			
Date monitored	-	23/06/04	05/08/04	25/08/04	27/09/04	05/11/04	17/11/04	15/12/04	26/01/05	10/03/05	21/04/05	15/05/05	01/07/05	21/07/05	15/08/05	15/09/05	28/10/05	16/11/05	08/12/05
Time of measurement	-		09:00	0810hrs	9:40	10:40	15:00	12:30	10:30	11:05	9.45am	7.45	8.48	05:50	12.20	14:12	15:43	11:15	10:45
Methane	% vol	2.9	<0.1	0.2	0.1	0.2	0.1	<0.1	<0.1	<0.1	0.1	0.1	1.2	1.1	<0.1	6.4	<0.1	<0.1	0.1
Carbon Dioxide	% vol	10.9	2.5	0.1	<0.1	<0.1	<0.1	2.3	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	3.9	3.3	13.9	4.5
Oxygen	% vol	11.9	18.4	20.3	20.5	20.5	20.5	18.6	20.4	21	21.4	18.6	11.2	9.6	11.2	19.6	14.3	6.6	16.5
Atmospheric Pressure	mbar	995	1014	1002	1007	1009	997	1004	1031	1014	1010	1010	1019	1018	1015	1001	991	1006	1015
Gas Pressure	mbar			0.8	<0.1	<0.1	<0.1	2	<0.1	1.3	1.1	0.1	0.1	0.1	<0.1	0		1.6	3.7
Gas Flow Rate	l/hr	<0.1		2.7	2.6	2.7	3	2.2	<0.1	1.1	2.3	0.1	1.1	0.1	<0.1	0.1		<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units											7.49		7.49					
Electrical Conductivity	µS/cm											2360		2360					
Dissolved Oxygen	mg/l											8		8					
Temperature	ºC											10.3		10.3					
Comment		Insufficient sample	No water pipe to sample																

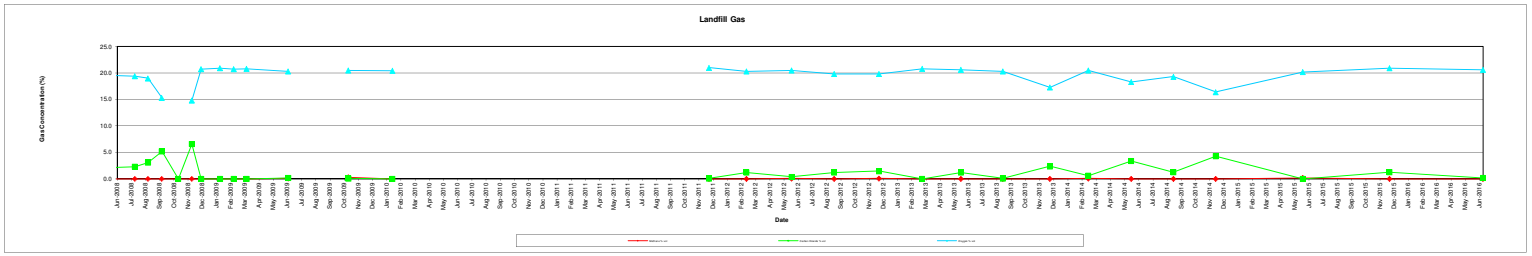
Cover Level - 45.7m AOD
Ground Level - 44.81m AOD



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N1																							
Type Of Sample Required	Leachate	10/01/06	10/02/06	22/03/06	12/04/06	04/05/06	26/06/06	24/07/06	09/08/06	06/09/06	03/10/06	09/11/06	07/12/06	11/01/07	08/02/07	13/03/07	19/04/07	10/05/07	11/06/07	24/07/07	10/08/07	10/09/07	12/10/07	15/11/07
Determinand	Units																							
Water Level																								
Water level to top of casing	m	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	3.00	Dry	Dry	Dry	Dry	3.02	3.02	3.05	Dry	Dry
Borehole depth to top of casing	m	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14
Top of casing relative to Ordnance Datum Level	m	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66
Water level relative to Ordnance Datum	m														42.66					42.64	42.64	42.61		
Calculated purge volume	litres														1.12					0.96	0.96	0.72		
Base of Well relative to Ordnance Datum		42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52
Gas Concentrations																								
Date monitored	-	10/01/06	10/02/06	22/03/06	12/04/06	04/05/06	26/06/06	24/07/06	09/08/06	06/09/06	03/10/06	09/11/06	07/12/06	11/01/07	08/02/07	13/03/07	19/04/07	10/05/07	11/06/07	24/07/07	10/08/07	10/09/07	12/10/07	15/11/07
Time of measurement	-	12:47	14:17	10:50	12:45	10:35	14:00	12:01	14:15	14:57	14:15	14:10	13:15	13:57	11:35	13:00	13:45	14:30	14:30	14:25	14:47	12:32	11:35	13:20
Methane	% vol	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	4.4	5.50	5.20	6.1	4.3	1.2	1.3	1.1	2.2	5.9	6.2	7.1	2.9	3.0	2.7	2.2	2.4	2.0	5.6	4.3	4.9	5.4	4.5
Oxygen	% vol	14.9	16.90	13.30	13.0	15.7	19.9	19.8	19.8	18.7	13.3	13.9	14.1	17.1	19.3	19.4	18.5	18.4	17.6	11.8	14.2	14.8	14.2	15.5
Atmospheric Pressure	mbar	995	1016	1010	1000	1012	1010	1008	1000	999	994	1023	961	974	989	1014	1011	995	1008	997	1008	1011	1007	1014
Gas Pressure	mbar	3.2	1.1	0.4	0.2	0.6	0.2	2.6	2.7	1.3	<0.1	<0.1	<0.1	0.7	0.5	0.3	<0.1	<0.1	1.5	<0.1	<0.1	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																								
pH	pH units																							
Electrical Conductivity	µS/cm																							
Dissolved Oxygen	mg/l																							
Temperature	℃																							
Comment																								

Cover Level - 45.7m AOD
Ground Level - 44.81m AOD



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N1**																		**(Sept mon)**						(Dec Mon)
Type Of Sample Required	Leachate	11/12/07	17/01/08	07/02/08	11/03/08	22/04/08	28/05/08	18/06/08	29/07/08	26/08/08	25/09/08	30/10/08	28/11/08	18/12/08	28/01/09	26/02/09	26/03/09	23/06/09	19/10/10	30/10/09	02/02/10	22/03/10	21/06/10	15/09/10	13/01/11
Determinand	Units																								
Water Level																									
Water level to top of casing	m	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	3.08		Dry	Dry				
Borehole depth to top of casing	m	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14		3.14	3.14				
Top of casing relative to Ordnance Datum Level	m	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66		45.66	45.66				
Water level relative to Ordnance Datum	m																	42.58							
Calculated purge volume	litres																	0.48							
Base of Well relative to Ordnance Datum		42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52	42.52		42.52	42.52				
Gas Concentrations																									
Date monitored	-	11/12/07	17/01/08	07/02/08	11/03/08	22/04/08	28/05/08	18/06/08	29/07/08	26/08/08	25/09/08	30/10/08	28/11/08	18/12/08	28/01/09	26/02/09	26/03/09	23/06/09		30/10/09	02/02/10				
Time of measurement	-	11:46	11:40	11:55	16:00					15:12	08:09	00:00	08:24	11:31	11:02	04:48	15:38	13:15		10:52	09:50				
Methane	% vol	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.10		0.30	0.00				
Carbon Dioxide	% vol	3.5	7.0	3.2	3.8	0.7	0.9	2.2	2.3	3.1	5.2	0.00	6.60	0.00	0.00	0.00	0.00	0.20		0.10	0.00				
Oxygen	% vol	18.9	19.0	18.8	18.2	20.4	20.7	19.5	19.4	19.0	15.3		14.80	20.70	20.90	20.70	20.80	20.30		20.50	20.40				
Atmospheric Pressure	mbar	1022	982	979	966	1011	1005	991	998	996	1024	0	996	1001	1012	1011	981	1024		1017	1007				
Gas Pressure	mbar	0.9	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	0.00	0.03	-0.05	0.02	0.02	0.07		0.03	0.03				
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	0.10	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	0.00				
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	ºC																								
Comment																			Bolt seized, no access			Bolt seized no access	Unable to sample. Lock seized	Bolt seized no access	Bolt seized no access

Cover Level - 45.7m AOD
Ground Level - 44.81m AOD

Ness Farm Landfill
Field Monitoring Sheet

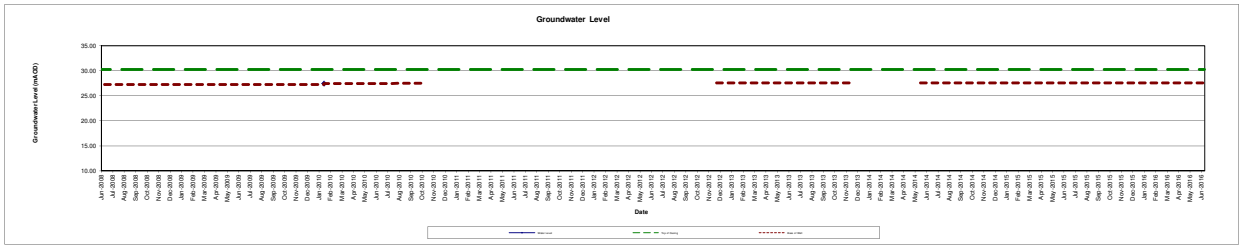
Sampling Location	**N1**																			
Type Of Sample Required	Leachate	15/03/11	15/06/11	07/09/11	13/12/11	02/03/12	07/06/12	06/09/12	11/12/12	14/03/13	05/06/13	03/09/13	13/12/13	05/03/14	05/06/14	03/09/14	03/12/14	08/06/15	11/12/15	28/06/16
Determinand	Units																			
Water Level																				
Water level to top of casing	m						Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Borehole depth to top of casing	m						2.98	2.94	2.92	2.95	2.93	2.95	2.95	2.95	2.94	2.94	2.96	2.94	2.95	2.95
Top of casing relative to Ordnance Datum Level	m						45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66
Water level relative to Ordnance Datum	m																			
Calculated purge volume	litres																			
Base of Well relative to Ordnance Datum							42.68	42.72	42.74	42.71	42.73	42.71	42.71		42.72	42.72	42.70	42.72	42.71	42.71
Gas Concentrations																				
Date monitored	-				13/12/12	02/03/12	07/06/12	06/09/12	11/12/12	14/03/13	05/06/13	03/09/13	13/12/13	05/03/14	05/06/14	03/09/14	03/12/14	08/06/15	11/12/15	28/06/16
Time of measurement	-				12:20	14:51	15:28	10:45	15:35	09:57	13:30	15:24	12:33	14:11	12:30	14:43	14:02	12:26	12:41	15:03
Methane	% vol				<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol				0.1	1.2	0.4	1.2	1.5	<0.1	1.2	0.1	2.4	0.6	3.4	1.3	4.3	<0.1	1.3	0.2
Oxygen	% vol				21.0	20.3	20.5	19.8	19.8	20.8	20.6	20.3	17.3	20.5	18.3	19.3	16.4	20.2	20.9	20.6
Atmospheric Pressure	mbar				963	1020	995	1012	1028	1008	1022	1016	1000	1007	1004	1020	1021	1034	1000	1005
Gas Pressure	mbar				<0.1	0.06	-0.18	<0.01	0.02	0.04	-0.07	0.1	-0.06	-0.02	-0.2	-0.22	0.1	0.05	-0.02	<0.01
Gas Flow Rate	l/hr				-0.3	n/r	<0.1	<0.1	<0.1	0.1	0.1	0.2	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	0.3
Insitu Liquid Determinations																				
pH	pH units																			
Electrical Conductivity	µS/cm																			
Dissolved Oxygen	mg/l																			
Temperature	ºC																			
Comment		Bolt seized no access	Bolts rusted solid - cover could not be removed	Bolts rusted solid - cover could not be removed	Top section of pipe fully detached	Top metre of borehole detached	Top metre of borehole detached.													

Cover Level - 45.7m AOD
Ground Level - 44.81m AOD

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N2																		
Type Of Sample Required	None	22/06/04	05/08/04	25/08/04	27/09/04	05/11/04	17/11/04	15/12/04	26/01/05	10/03/05	21/04/05	15/05/05	01/07/05	21/07/05	15/08/05	15/09/05	28/10/05	16/11/05	15/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	Dry	2.62	2.54	2.54	2.50	2.64	2.48	2.66	2.64	2.60	1.37	1.40	Dry	Dry	Dry	Dry	Dry	Dry
Borehole depth to top of casing	m	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05
Top of casing relative to Ordnance Datum Level	m	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28
Water level relative to Ordnance Datum	m		27.66	27.74	27.74	27.78	27.64	27.80	27.62	27.64	27.68	28.91	28.88						
Calculated purge volume	litres		3.44	4.08	4.08	4.40	3.28	4.56	3.12	3.28	3.60	13.44	13.20						
Base of Well relative to Ordnance Datum		27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23
Gas Concentrations																			
Date monitored	-	22/06/04	05/08/04	25/08/04	27/09/04	05/11/04	17/11/04	15/12/04	26/01/05	10/03/05	21/04/05	15/05/05	01/07/05	21/07/05	15/08/05	15/09/05	28/10/05	16/11/05	15/12/05
Time of measurement	-		09:02	0815hrs	9:50	10:45	14:20	12:15	10:35	10:55	10.30am	8.31	10.21	06:20	12.41	16:00	15:50	11:22	15:03
Methane	% vol	1.4	4.6	0.9	0.8	0.8	<0.1	0.9	<0.1	<0.1	1.2	1.2	2.3	1.3	<0.1	1.5	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	9.6	18.5	2.2	2.3	2.2	<0.1	2.1	<0.1	<0.1	2.1	2.1	1.2	1.1	<0.1	0.1	5.8	15.4	13.1
Oxygen	% vol	8.3	0.2	18.4	18.5	18.9	20.7	20.2	20.6	20.3	18.3	21.4	16.4	13.4	8.2	21.1	15.3	3.1	4.5
Atmospheric Pressure	mbar	1006	1016	1004	1007	1008	997	1003	1031	1016	1010	1015	1019	1018	1015	1001	993	1008	1009
Gas Pressure	mbar	0.0		2.8	2.7	2.5	5.6	1.8	5.4	<0.1	0.1	1.2	<0.1	1.1	<0.1	0		0	0
Gas Flow Rate	l/hr	<0.1		2.7	2.7	2.6	3.4	2.1	2.8	1.6	0.1	0.6	<0.1	1.2	<0.1	0.1		<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment														Dry					

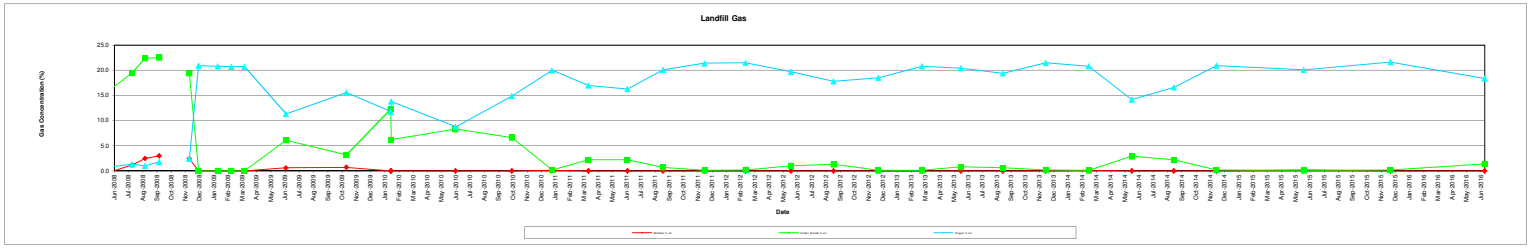
Cover Level - 30.32m AOD
Ground Level - 29.73m AOD



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N2																							
Type Of Sample Required	None	10/01/06	10/02/06	22/03/06	12/04/06	04/05/06	26/06/06	24/07/06	09/08/06	06/09/06	03/10/06	09/11/06	07/12/06	11/01/07	08/02/07	13/03/07	19/04/07	10/05/07	11/06/07	24/07/07	10/08/07	10/09/07	12/10/07	15/11/07
Determinand	Units																							
Water Level																								
Water level to top of casing	m	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	2.67	2.78	Dry	Dry	Dry
Borehole depth to top of casing	m	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05
Top of casing relative to Ordnance Datum Level	m	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28
Water level relative to Ordnance Datum	m																			27.61	27.50			
Calculated purge volume	litres																			3.04	2.16			
Base of Well relative to Ordnance Datum		27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23
Gas Concentrations																								
Date monitored	-	10/01/06	10/02/06	22/03/06	12/04/06	04/05/06	26/06/06	24/07/06	09/08/06	06/09/06	03/10/06	09/11/06	07/12/06	11/01/07	08/02/07	13/03/07	19/04/07	10/05/07	11/06/07	24/07/2007	10/08/2007	10/09/2007	12/10/07	15/11/07
Time of measurement	-	12:54	14:10	11:02	12:49	10:45	14:08	12:11	14:27	14:47	14:25	14:00	13:05	13:50	11:45	13:10	13:32	14:45	14:41	14:03	14:26	12:20	11:45	13:30
Methane	% vol	0.2	0.00	0.00	0.0	0.0	0.0	2.4	0.0	0.3	1.2	1.4	1.2	0	0.0	0.0	0.0	0.0	0.0	1.9	3.4	3.1	3.2	3.6
Carbon Dioxide	% vol	13.4	13.30	12.00	11.2	10.0	13.1	16.7	14.5	16.6	16.2	18.5	17.2	15.7	14.7	15.1	11.5	12.3	13.8	15.9	18.8	19.0	18.8	18.1
Oxygen	% vol	4.5	5.50	6.70	7.4	8.4	3.5	1.2	2.2	2.4	3.0	4.2	3.9	4.1	7.6	7.2	7.6	7.0	3.7	0.3	0.3	0.2	0.8	0.6
Atmospheric Pressure	mbar	996	1018	1011	1001	1014	1012	1011	1002	1001	994	1024	962	973	990	1015	1013	997	1009	999	1010	1012	1008	1015
Gas Pressure	mbar	0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.3	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																								
pH	pH units																							
Electrical Conductivity	µS/cm																							
Dissolved Oxygen	mg/l																							
Temperature	℃																							
Comment															Broken Nozzle	Broken Nozzle	Broken Nozzle	Broken Nozzle	Broken Nozzle					

Cover Level - 30.32m AOD
Ground Level - 29.73m AOD



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N2**																					(Sept mon)	(Dec Mon)	
Type Of Sample Required	None	11/12/07	17/01/08	07/02/08	11/03/08	22/04/08	28/05/08	18/06/08	29/07/08	26/08/08	25/09/08	30/10/08	28/11/08	18/12/08	28/01/09	26/02/09	26/03/09	23/06/09	30/10/09	02/02/10	03/02/10	21/06/10	19/10/10	13/01/11	01/04/11
Determinand	Units																							
Water Level																								
Water level to top of casing	m	2.66	2.42	2.56	2.58	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	2.81	Dry	Dry	Dry	Dry
Borehole depth to top of casing	m	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	2.82	2.81	2.80		
Top of casing relative to Ordnance Datum Level	m	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28
Water level relative to Ordnance Datum	m	27.62	27.86	27.72	27.70																27.47				
Calculated purge volume	litres	3.12	5.04	3.92	3.76																				
Base of Well relative to Ordnance Datum		27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.46	27.47	27.48		
Gas Concentrations																								
Date monitored	-	11/12/07	17/01/08	07/02/08	11/03/08	22/04/08	28/05/08	18/06/08	29/07/08	26/08/08	25/09/08	30/10/08	28/11/08	18/12/08	28/01/09	26/02/09	26/03/09	23/06/09	30/10/09	02/02/10	22/03/10	21/06/10	19/10/10	13/01/11	01/04/11
Time of measurement	-	11:55	11:30	12:05	15:50					15:02	10:33		07:40	09:36	09:50	03:36	15:34	13:05	11:02	08:38	15:00	15:39	15:45	9:15	11:00
Methane	% vol	0.0	0.0	0.0	0.0	0	0	0.0	1.2	2.5	3.0		2.40	0.00	0.00	0.00	0.00	0.60	0.70	0.00	<0.1	<0.1	<0.1	0.1	<0.1
Carbon Dioxide	% vol	19.2	18.4	17.8	16.3	12.9	14.3	16.6	19.5	22.4	22.5		19.40	0.00	0.00	0.00	0.00	6.10	3.20	12.30	6.2	8.3	6.6	0.2	2.2
Oxygen	% vol	0.8	0.9	1.1	2.4	9.3	3	0.9	1.3	1.0	1.8		2.40	20.90	20.80	20.70	20.70	11.30	15.60	11.80	13.8	8.8	14.9	20.0	17.0
Atmospheric Pressure	mbar	1023	982	980	966	1011	1005	998	999	998	1026		998	1002	1014	1013	982	1026	1018	1008	1000	1017	1001	994	1002
Gas Pressure	mbar	1.1	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		0.01	0.05	-0.03	-0.05	0.02	0.05	0.09	-0.01	-0.01	0.08	0.18	0.14	-0.06
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		0.10	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	-0.1	+/-0.1	0.2	+/-0.1	0.0
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment												Equipment failure													

Cover Level - 30.32m AOD
Ground Level - 29.73m AOD

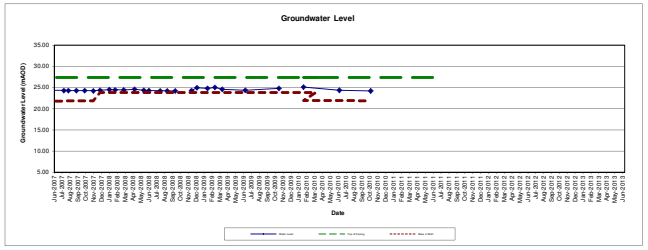
Ness Farm Landfill
Field Monitoring Sheet

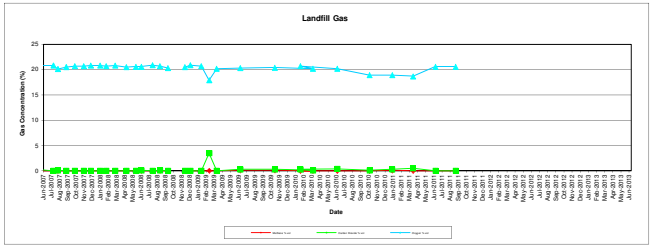
Sampling Location	**N2**																		
Type Of Sample Required	None	23/06/11	07/09/11	05/12/11	02/03/12	07/06/12	06/09/12	11/12/12	14/03/13	05/06/13	03/09/13	04/12/13	05/03/14	05/06/14	03/09/14	03/12/14	08/06/15	11/12/15	28/06/16
Determinand	Units																		
Water Level																			
Water level to top of casing	m	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Borehole depth to top of casing	m							2.70	2.73	2.70	2.70	2.68	2.71	2.71	2.7	2.72	2.7	2.71	2.7
Top of casing relative to Ordnance Datum Level	m	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28
Water level relative to Ordnance Datum	m																		
Calculated purge volume	litres																		
Base of Well relative to Ordnance Datum								27.58	27.55	27.58	27.58	27.60		27.57	27.58	27.56	27.58	27.57	27.58
Gas Concentrations																			
Date monitored	-	23/06/11	07/09/11	05/12/12	02/03/12	07/06/12	06/09/12	11/12/12	14/03/13	05/06/13	03/09/13	04/12/13	05/03/14	05/06/14	03/09/14	03/12/14	08/06/15	11/12/15	28/06/16
Time of measurement	-	13:57	10:16	11:24	14:46	15:35	10:34	15:45	10:03	13:22	15:32	15:14	14:17	12:23	14:37	13:56	12:20	12:48	14:50
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	2.2	0.7	0.1	0.2	1.0	1.3	0.1	0.1	0.8	0.6	0.2	0.1	2.9	2.2	0.2	0.1	0.2	1.4
Oxygen	% vol	16.3	20.1	21.4	21.5	19.7	17.8	18.5	20.8	20.4	19.4	21.5	20.8	14.2	16.6	20.9	20.1	21.6	18.4
Atmospheric Pressure	mbar	1010	995	995	1022	997	1014	991	1009	1022	1016	1016	1009	1004	1021	1023	1034	1002	1007
Gas Pressure	mbar	0.00	0.02	<0.1	0.03	-0.17	<0.01	0.41	0.07	-0.09	0.1	-0.12	-0.02	-0.21	-0.24	0.09	0.03	-0.02	<0.01
Gas Flow Rate	l/hr	0.1	-0.1	-0.2	<0.1	<0.1	-0.1	0.1	<0.1	0.1	0.2	0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	ºC																		
Comment																			

Cover Level - 30.32m AOD
Ground Level - 29.73m AOD

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N3(19mm)																		
Type Of Sample Required	None	22/06/04	05/08/04	25/08/04	27/09/04	05/11/04	17/11/04	15/12/04	26/01/05	10/03/05	21/04/05	15/05/05	01/07/05	22/07/05	15/08/05	15/09/05	28/10/05	16/11/05	15/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	Dry	Dry	Dry	3.11	3.10	3.10	3.09	3.10	3.00	2.55	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Borehole depth to top of casing	m	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55
Top of casing relative to Ordnance Datum Level	m	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35
Water level relative to Ordnance Datum	m				24.24	24.25	24.25	24.26	24.25	24.35	24.80								
Calculated purge volume	litres																		
Base of Well relative to Ordnance Datum		23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80
Gas Concentrations																			
Date monitored	-	22/06/2004	05/08/2004	25/08/2004	27/09/2004	05/11/2004	17/11/2004	15/12/2004	26/01/2005	10/03/2005	21/04/2005	15/05/2005	01/07/2005	22/07/2005	15/08/2005	15/09/2005	28/10/2005	16/11/2005	15/12/2005
Time of measurement	-		09:10	0820hrs	8:10	10:50	14:25	12:10	40:00.0	10:45	10.00am	9.20	11.40	07:52	1.05	14:30	16:01	11:35	15:07
Methane	% vol		<0.1	0.1	0.1	0.1	<0.1	1.1	<0.1	<0.1	0.1	0.1	9.4	0.1	<0.1	2.3	<0.1	<0.1	<0.1
Carbon Dioxide	% vol		1.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	6.1	1.1	<0.1	1.4	<0.1	1.9	1.5
Oxygen	% vol		18.6	20.5	20.6	20.6	19.3	<0.1	20.1	20.7	20.1	25.2	19.6	8.9	9.6	21.2	20.6	18.1	18.8
Atmospheric Pressure	mbar		1016	1004	1007	1008	998	1003	1031	1016	1010	1015	1019	1015	1015	1001	993	1007	1009
Gas Pressure	mbar			2.6	2.6	2.6	5.8	2.1	5.6	3.8	5.4	<0.1	0.1	<0.1	1.1	0		0	0
Gas Flow Rate	l/hr			2.7	2.7	2.7	3.7	1.9	3.4	1.3	3.2	1.1	0.1	1.1	1.2	<0.1		0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment										No Thin Watera to sample				Dry					





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N3(19mm)**																							
Type Of Sample Required	None	10/01/06	10/02/06	12/04/06	04/05/06	04/05/06	26/06/06	24/07/06	09/08/06	06/09/06	03/10/06	09/11/06	07/12/06	11/01/07	08/02/07	13/03/07	19/04/07	10/05/07	11/06/07	24/07/07	10/08/07	10/09/07	12/10/07	15/11/07
Determinand	Units																							
Water Level																								
Water level to top of casing	m	2.95	2.95	1.74	2.59	2.59	2.94	3.12	3.05	DRY	3.20	3.22	3.22	3.03	2.96	2.92	2.75	2.77	3.00	3.05	3.09	3.11	3.09	3.12
Borehole depth to top of casing	m	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	5.55	5.55	5.55	5.55	5.55	5.54	5.54	5.54	5.54
Top of casing relative to Ordnance Datum Level	m	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35
Water level relative to Ordnance Datum	m	24.40	24.40	25.61	24.76	24.76	24.41	24.23	24.30		24.15	24.13	24.13	24.32	24.39	24.43	24.60	24.58	24.35	24.30	24.26	24.24	24.26	24.23
Calculated purge volume	litres																							
Base of Well relative to Ordnance Datum		23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	21.80	21.80	21.80	21.80	21.80	21.81	21.81	21.81	21.81
Gas Concentrations																								
Date monitored	-	10/01/2006	10/02/2006	12/04/2006	04/05/2006	04/05/2006	26/06/2006	24/07/2006	09/08/2006	06/09/2006	03/10/2006	09/11/2006	07/12/2006	11/01/2007	08/02/2007	13/03/2007	19/04/2007	10/05/2007	11/06/2007	24/07/2007	10/08/2007	10/09/2007	12/10/2007	15/11/2007
Time of measurement	-	13:02	14:04	12:55	10:51	10:51	14:17	12:18	14:01	14:30	14:35	13:48	12:55	13:43	11:55	13:20	13:22	14:55	14:48	13:49	14:14	12:05	12:10	14:25
Methane	% vol	0.2	0.00	0.0	0.0	0.0	0.0	0.0	0	0	0.1	0.1	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	<0.1	0.00	0.0	0.0	0.0	0.1	0.1	3.5	0	0.1	0.1	0	0.1	0.1	0.2	0.1	0.2	0.2	0.0	0.1	0.0	0.0	0.0
Oxygen	% vol	21	21.00	20.2	20.5	20.5	20.6	20.2	17.3	20.4	21	20.2	20.7	20.6	20.5	20.4	20.7	20.7	20.8	20.8	20.1	20.5	20.7	20.7
Atmospheric Pressure	mbar	996	1019	1002	1014	1014	1012	1011	1002	1001	994	1025	963	972	991	1015	1012	996	1009	999	1010	1012	1008	1015
Gas Pressure	mbar	0	<0.1	<0.1	0.1	0.1	<0.1	2.2	<0.1	1.4	<0.1	<0.1	<0.1	1.9	0.6	0.4	1	0.7	1.3	<0.1	<0.1	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																								
pH	pH units																							
Electrical Conductivity	µS/cm																							
Dissolved Oxygen	mg/l																							
Temperature	ºC																							
Comment																								

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N3(19mm)**																					(Sept mon)	(Dec Mon)	
Type Of Sample Required	None	11/12/07	15/01/08	07/02/08	11/03/08	22/04/08	28/05/08	17/06/08	29/07/08	26/08/08	25/09/08	30/10/08	28/11/08	18/12/08	28/01/09	26/02/09	26/03/09	23/06/09	30/10/09	22/03/10	03/02/10	21/06/10	19/10/10	13/01/11	01/04/11
Determinand	Units																							
Water Level																								
Water level to top of casing	m	3.03	2.84	2.90	2.92	2.80	2.99	3.07	3.13	3.14	3.16	DRY	3.06	2.39	2.55	2.31	2.78	3.01	2.57	Dry	2.28	2.98	3.15	DRY	DRY
Borehole depth to top of casing	m	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	5.46	5.46	5.50		
Top of casing relative to Ordnance Datum Level	m	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35
Water level relative to Ordnance Datum	m	24.32	24.51	24.45	24.43	24.55	24.36	24.28	24.22	24.21	24.19		24.29	24.96	24.80	25.04	24.57	24.34	24.78		25.07	24.37	24.20		
Calculated purge volume	litres																								
Base of Well relative to Ordnance Datum		23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	21.89	21.89	21.85		
Gas Concentrations																									
Date monitored	-	11/12/2007	15/01/2008	07/02/2008	11/03/2008	22/04/2008	28/05/2008	17/06/2008	29/07/2008	26/08/2008	25/09/08	30/10/08	28/11/08	18/12/08	28/01/09	26/02/09	26/03/09	23/06/09	30/10/09	02/02/10	22/03/10	21/06/10	19/10/10	13/01/11	01/04/11
Time of measurement	-	12:05	11:25	12:20	15:25				00:00	14:40	14:20		12.24	13.21	14.23	10:53	15.15	12.48	11.18	15.27	15:20	15:51	15:35	9:30	10:45
Methane	% vol	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.00		0.00	0.00	0.00	0.00	0.00	0.10	0.10	0.00	<0.1	<0.1	<0.1	0.1	<0.1
Carbon Dioxide	% vol	0.0	0.0	0.0	0.0	0	0	0.1	0.0	0.1	0.00		0.00	0.00	0.00	3.50	0.00	0.30	0.30	0.10	0.3	0.4	0.1	0.3	0.5
Oxygen	% vol	20.8	20.8	20.7	20.8	20.5	20.6	20.6	20.9	20.7	20.30		20.50	20.90	20.70	17.90	20.20	20.30	20.40	20.20	20.7	20.2	18.9	18.9	18.7
Atmospheric Pressure	mbar	1023	979	981	967	1011	1005	998	1000	998	1024		998	1001	1015	1013	983	1027.00	1019.00	1008.00	1000	1017	1001	994	1002
Gas Pressure	mbar	2	1.2	0.9	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		0.01	#REF!	-0.02	-0.02	0.01	0.03	-0.02	0.05	+/-0.01	0.01	-0.17	+/-0.01	-0.12
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	+/-0.1	+/-0.1	-0.1	-0.5	0.0
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	ºC																								
Comment												Equipment Failure													

Ness Farm Landfill
Field Monitoring Sheet

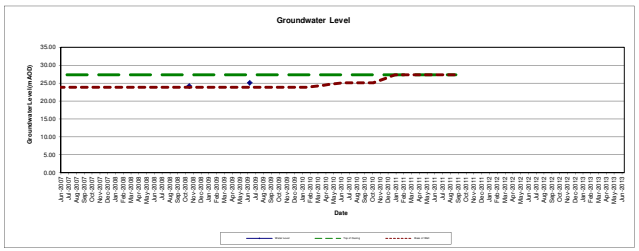
Sampling Location	N3(19mm)			
Type Of Sample Required	None	23/06/11	07/09/11	
Determinand	Units			
Water Level				
Water level to top of casing	m	DRY		
Borehole depth to top of casing	m			
Top of casing relative to Ordnance Datum Level	m	27.35		
Water level relative to Ordnance Datum	m			
Calculated purge volume	litres			
Base of Well relative to Ordnance Datum				
Gas Concentrations				
Date monitored	-	23/06/11	07/09/11	
Time of measurement	-	13:53	10:04	
Methane	% vol	<0.1	<0.1	
Carbon Dioxide	% vol	<0.1	<0.1	
Oxygen	% vol	20.6	20.6	
Atmospheric Pressure	mbar	1010	995	
Gas Pressure	mbar	0.00	-0.07	
Gas Flow Rate	l/hr	<0.1	-0.2	
Insitu Liquid Determinations				
pH	pH units			
Electrical Conductivity	µS/cm			
Dissolved Oxygen	mg/l			
Temperature	ºC			
Comment				

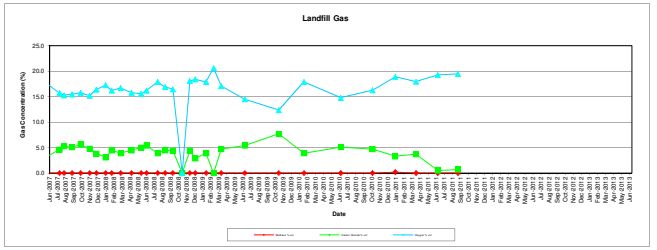
Well removed as Part of Phase 3 Restoration Works

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N3(50mm)																		
Type Of Sample Required	None	22/06/04	05/08/04	25/08/04	27/09/04	05/11/04	17/11/04	15/12/04	26/01/05	10/03/05	21/04/05	15/05/05	01/07/05	22/07/05	15/08/05	13/09/05	28/10/05	16/11/05	15/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Borehole depth to top of casing	m	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55
Top of casing relative to Ordnance Datum Level	m	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35
Water level relative to Ordnance Datum	m																		
Calculated purge volume	litres																		
Base of Well relative to Ordnance Datum		23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80
Gas Concentrations																			
Date monitored	-	22/06/2004	05/08/2004	25/08/2004	27/09/2004	05/11/2004	17/11/2004	15/12/2004	26/01/2005	10/03/2005	21/04/2005	15/05/2005	01/07/2005	22/07/2005	15/08/2005	13/09/2005	28/10/2005	16/11/2005	15/12/2005
Time of measurement	-		09:12	0820hrs	8:20	50:00.0	14:25	12:00	10:50	10:40	11.20am	10.00	1.20	08:31	1.15	13:20	16:00	11:31	15:07
Methane	% vol	<0.1	<0.1	0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	6.6	0.1	<0.1	8.5	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	3.3	<0.1	0.3	0.3	0.2	2.6	<0.1	2.3	1.2	2.4	0.1	3.4	0.1	<0.1	6.1	2.5	2.5	<0.1
Oxygen	% vol	17.1	20.6	20.2	20.2	20.4	17.9	19.8	18.1	19.2	18.6	20.1	11.1	11.1	4.9	19.9	17.4	20	20.3
Atmospheric Pressure	mbar	1006	1016	1004	1007	1008	998	1003	1031	1016	1010	1015	1019	1015	1015	1001	993	1007	1009
Gas Pressure	mbar	0.0		2.5	2.5	2.5	5.8	2	5.6	3.8	4.1	0.9	1.1	0.1	3.1	0.3		0.0	0.0
Gas Flow Rate	l/hr	<0.1		2.7	2.7	2.7	3.6	2	3.4	1.4	2.2	0.8	0.1	0.1	2.3	0.1		<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	ºC																		
Comment																			

Cover Level - 27.38m AOD
Ground Level - 26.82m AOD





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N3(50mm)**																								
Type Of Sample Required	None	10/01/06	10/02/06	22/03/06	12/04/06	04/05/06	26/06/06	24/07/06	09/08/06	06/09/06	03/10/06	09/11/06	07/12/06	11/01/07	08/02/07	13/03/07	19/04/07	10/05/07	11/06/07	24/07/07	10/08/07	10/09/07	12/10/07	15/11/07	11/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Borehole depth to top of casing	m	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55
Top of casing relative to Ordnance Datum Level	m	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35
Water level relative to Ordnance Datum	m																								
Calculated purge volume	litres																								
Base of Well relative to Ordnance Datum		23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80
Gas Concentrations																									
Date monitored	-	10/01/2006	10/02/2006	22/03/2006	12/04/2006	04/05/2006	26/06/2006	24/07/2006	09/08/2006	06/09/2006	03/10/2006	09/11/2006	07/12/2006	11/01/2007	08/02/2007	13/03/2007	19/04/2007	10/05/2007	11/06/2007	24/07/2007	10/08/2007	10/09/2007	12/10/2007	15/11/2007	11/12/2007
Time of measurement	-	13:02	14:00	11:17	12:59	10:56	14:21	12:23	14:06	14:38	14:40	13:52	12:55	13:40	11:52	13:23	13:25	14:52	14:48	13:49	14:14	11:55	12:15	14:30	12:09
Methane	% vol	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	0	0.2	0.1	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	1.8	1.40	1.70	0.9	2.7	4.3	3.3	0.1	2.1	1.9	2.5	2.7	3.3	3.4	4.1	3.2	3.4	3.4	4.6	5.3	5.1	5.6	4.8	3.8
Oxygen	% vol	18.9	19.30	18.00	18.8	18.3	16.8	17.5	20.6	18.8	19.4	19	18.8	16.5	16.8	16.3	18.1	18.3	17.4	15.7	15.3	15.5	15.8	15.2	16.4
Atmospheric Pressure	mbar	996	1019	1012	1002	1014	1012	1011	1002	1001	994	1025	963	972	991	1015	1012	996	1009	999	1010	1012	1008	1015	1023
Gas Pressure	mbar	0.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	0.9	1.5	0.8	1.2	1.2	1	<0.1	<0.1	<0.1	<0.1	<0.1	0.9
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	ºC																								
Comment																									

Cover Level - 27.38m AOD
Ground Level - 26.82m AOD

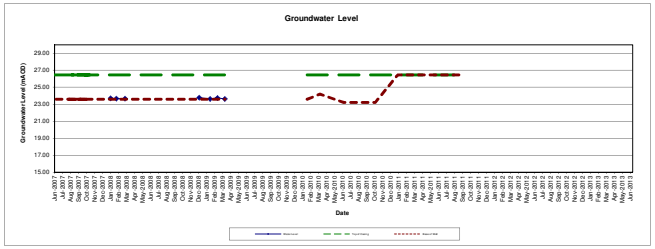
Ness Farm Landfill
Field Monitoring Sheet

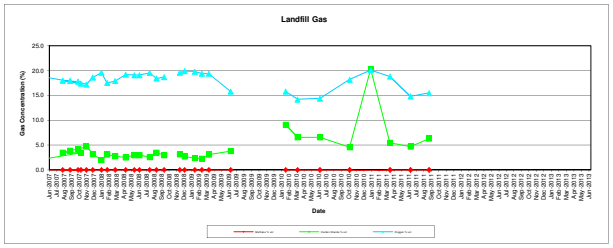
Sampling Location	N3(50mm)																			(Sept mon)	(Dec Mon)				Well removed as Part of Phase 3 Restoration Works
Type Of Sample Required	None	15/01/08	07/02/08	11/03/08	22/04/08	28/05/08	17/06/08	29/07/08	26/08/08	25/09/08	30/10/08	28/11/08	18/12/08	28/01/09	26/02/09	26/03/09	23/06/09	30/10/09	02/02/10	21/06/10	19/10/10	13/01/11	01/04/11	23/06/11	07/09/11	
Determinand	Units																								
Water Level																									
Water level to top of casing	m	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	3.17	Dry	Dry	Dry	Dry	Dry	2.26	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	
Borehole depth to top of casing	m	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55	2.26	2.28					
Top of casing relative to Ordnance Datum Level	m	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	27.35	
Water level relative to Ordnance Datum	m										24.18						25.09									
Calculated purge volume	litres										3.04						10.32									
Base of Well relative to Ordnance Datum		23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	23.80	25.09	25.07	27.35	27.35	27.35	27.35	
Gas Concentrations																										
Date monitored	-	15/01/2008	07/02/2008	11/03/2008	22/04/2008	28/05/2008	17/06/2008	29/07/2008	26/08/2008	25/09/2008	30/10/08	28/11/08	18/12/08	28/01/09	26/02/09	26/03/09	23/06/09	30/10/09	02/02/10	21/06/10	19/10/10	13/01/11	01/04/11	23/06/11	07/09/11		
Time of measurement	-	11:30	12:20	15:25					14:37	03:50	00:00	05:02	05:45	04:33	10:57	15:12	12:48	11:15	05:45	15:53	15:36	9:35	10:50	13:47	10:08	
Methane	% vol	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	
Carbon Dioxide	% vol	3.1	4.5	3.9	4.5	5	5.4	3.9	4.5	4.4	0.00	4.40	2.90	3.90	0.00	4.70	5.40	7.70	3.90	5.1	4.7	3.3	3.7	0.5	0.7	
Oxygen	% vol	17.3	16.2	16.7	15.8	15.6	16.2	17.9	16.9	16.5	0.00	18.10	18.40	17.90	20.60	17.10	14.50	12.40	17.90	14.8	16.3	18.9	18.0	19.3	19.5	
Atmospheric Pressure	mbar	979	981	967	1011	1005	998	1000	999	1025	0	999	1001	1014	1013	983	1026.00	1019.00	1008.00	1017	1001	994	1002	1010	995	
Gas Pressure	mbar	0.4	0.7	0.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	-0.16	-0.17	-0.02	0.04	0.05	0.02	-0.06	0.03	+/-0.01	-0.1	-0.21	-0.12	0.00	<0.01	
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	+/-0.1	+/-0.1	-0.2	0.0	<0.1	-0.2	
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	℃																									
Comment											Equipment Failure															

Cover Level - 27.38m AOD
Ground Level - 26.82m AOD

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N4																		
Type Of Sample Required	None	22/06/04	05/08/04	25/08/04	27/09/04	05/11/04	17/11/04	15/12/04	26/01/05	10/03/05	21/04/05	15/05/05	01/07/05	22/07/05	15/08/05	15/09/05	28/10/05	16/11/05	15/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	2.81	2.71	2.96	Dry	Dry	Dry	Dry	Dry
Borehole depth to top of casing	m	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85
Top of casing relative to Ordnance Datum Level	m	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45
Water level relative to Ordnance Datum	m											23.64	23.74	23.49					
Calculated purge volume	litres											0.32	1.12	-0.88					
Base of Well relative to Ordnance Datum		23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60
Gas Concentrations																			
Date monitored	-	22/06/2004	05/08/2004	25/08/2004	27/09/2004	05/11/2004	17/11/2004	15/12/2004	26/01/2005	10/03/2005	21/04/2005	15/05/2005	01/07/2005	22/07/2005	15/08/2005	15/09/2005	28/10/2005	16/11/2005	15/12/2005
Time of measurement	-		09:15	0835hrs	9:20	10:55	14:30	11:50	10:55	10:05	11.50am	10.41	2.30	09:46	1.30	13:40	16:07	11:42	15:09
Methane	% vol	<0.1	<0.1	0.1	0.1	0.1	<0.1	0.1	0.1	0.1	1.1	<0.1	10.1	<0.1	0.1	16.2	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	2.4	1.4	1.9	10.3	10	2.4	9.8	2.3	2.1	2.2	2.2	5.6	0.1	1.1	13.5	1.3	1.3	1.8
Oxygen	% vol	18.6	19.8	19	11.9	12.2	18.5	12.1	18.6	18.7	12.8	12.8	20.1	10.2	19.4	21.1	19.3	18.8	19.1
Atmospheric Pressure	mbar	1006	1016	1004	1007	1008	997	1001	1032	1017	1010	1012	1019	1015	1015	1001	993	1007	1009
Gas Pressure	mbar	0.0		2.4	2.8	2.8	5.7	2	5.7	<0.1	5.6	0.1	1.2	1.1	1.1	1.4		0.1	0
Gas Flow Rate	l/hr	<0.1		2.6	2.6	2.5	3.4	1.8	3.3	1.5	4.1	0.1	1.1	1.1	1.2	0.2		<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	ºC																		
Comment																			





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N4**																								
Type Of Sample Required	None	10/01/06	10/02/06	22/03/06	12/04/06	04/05/06	26/06/06	24/07/06	09/08/06	06/09/06	03/10/06	09/11/06	07/12/06	11/01/07	08/02/07	13/03/07	19/04/07	10/05/07	11/06/07	24/10/07	10/08/07	10/09/07	12/10/07	15/11/07	11/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	Dry	DRY	DRY	DRY	2.82	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
Borehole depth to top of casing	m	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85
Top of casing relative to Ordnance Datum Level	m	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45
Water level relative to Ordnance Datum	m					23.63																			
Calculated purge volume	litres					0.24																			
Base of Well relative to Ordnance Datum		23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60
Gas Concentrations																									
Date monitored	-	10/01/2006	10/02/2006	22/03/2006	12/04/2006	04/05/2006	26/06/2006	24/07/2006	09/08/2006	06/09/2006	03/10/2006	09/11/2006	07/12/2006	11/01/2007	08/02/2007	13/03/2007	19/04/2007	10/05/2007	11/06/2007	24/10/2007	10/08/2007	10/09/2007	12/10/2007	15/11/2007	11/12/2007
Time of measurement	-	13:10	13:55	11:25	13:06	11:00	14:27	12:29	14:13	14:25	14:45	13:42	12:48	13:33	12:04	13:32	13:16	15:00	15:02	13:40	14:05	11:45	12:25	14:40	12:23
Methane	% vol	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	0	0.1	0.1	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	0.8	1.30	1.50	1.9	2.3	1.9	1.5	1.8	0.9	1.3	2.2	1.7	1.5	1.5	1.4	1.9	2.1	2.3	3.5	3.5	3.9	4.2	4.7	3.2
Oxygen	% vol	20.2	20.00	18.90	18.5	19.4	19.1	19.0	19	19.8	20	19.6	19.8	19.6	19.3	19.4	19.6	19.3	18.6	17.4	18.0	17.9	17.8	17.2	18.6
Atmospheric Pressure	mbar	996	1019	1011	1001	1013	1012	1011	1002	1001	994	1025	963	973	991	1015	1012	996	1009	999	1010	1012	1008	1015	1024
Gas Pressure	mbar	0	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	0.2	0.9	<0.1	1.1	0.7	1.5	1	1.4	1.6	1	0.9	0.2	0.2	0.2	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.3	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment																									

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N4**																	
Type Of Sample Required	None	15/01/08	07/02/08	11/03/08	22/04/08	28/05/08	18/06/08	29/07/08	26/08/08	25/09/08	30/10/08	28/11/08	18/12/08	28/01/09	26/02/09	26/03/09	23/06/09	30/10/09
Determinand	Units																	
Water Level																		
Water level to top of casing	m	2.74	2.78	2.79	DRY	DRY	Dry	Dry	Dry	Dry	Dry	DRY	2.68	2.81	2.70	2.81		
Borehole depth to top of casing	m	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85		
Top of casing relative to Ordnance Datum Level	m	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45		
Water level relative to Ordnance Datum	m	23.71	23.67	23.66									23.77	23.64	23.75	23.64		
Calculated purge volume	litres	0.88	0.56	0.48									1.36	0.32	1.20	0.32		
Base of Well relative to Ordnance Datum		23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60		
Gas Concentrations																		
Date monitored	-	15/01/2008	07/02/2008	11/03/2008	22/04/2008	28/05/2008	18/06/2008	29/07/2008	26/08/2008	25/09/2008	30/10/08	28/11/08	18/12/08	28/01/09	26/02/09	26/03/09	23/06/09	
Time of measurement	-	11:20	12:30	15:15				00:00	02:00	02:00	02:00	02:00	02:00	02:00	02:00	15:06	12:41	
Methane	% vol	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00	
Carbon Dioxide	% vol	2.0	3.1	2.8	2.5	3	3.0	2.6	3.5	3.0		3.20	2.70	2.40	2.30	3.10	3.80	
Oxygen	% vol	19.6	17.5	17.9	19.2	19.1	19.1	19.5	18.4	18.7		19.60	19.90	19.80	19.40	19.40	15.80	
Atmospheric Pressure	mbar	979	981	967	1011	1005	998	1000	999	1024		999.00	1001.00	1014.00	1013.00	983.00	1026.00	
Gas Pressure	mbar	0.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		-0.13	#REF!	0.00	0.01	0.11	Damaged	
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	0.10	<0.1	<0.1	<0.1	Damaged	
Insitu Liquid Determinations																		
pH	pH units																	
Electrical Conductivity	µS/cm																	
Dissolved Oxygen	mg/l																	
Temperature	℃																	
Comment											Equipment Failure						Damaged	Damaged

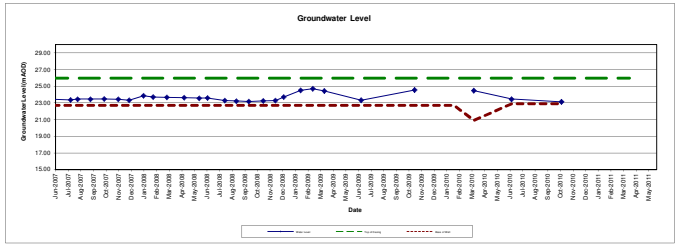
Ness Farm Landfill
Field Monitoring Sheet

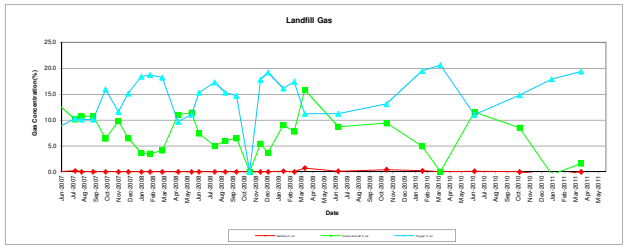
Sampling Location	**N4**				(Sept mon)	(Dec Mon)				
Type Of Sample Required	None	02/02/10	22/03/10	21/06/10	19/10/10	13/01/11	01/04/11	23/06/11	07/09/11	
Determinand	Units									
Water Level										
Water level to top of casing	m	Dry	Dry	Dry	DRY	Dry	Dry	Dry	Dry	
Borehole depth to top of casing	m	2.85	2.27	3.25	3.25					
Top of casing relative to Ordnance Datum Level	m	26.45	26.45	26.45	26.45	26.45	26.45	26.45	26.45	
Water level relative to Ordnance Datum	m									
Calculated purge volume	litres									
Base of Well relative to Ordnance Datum		23.60	24.18	23.20	23.20	26.45	26.45	26.45	26.45	
Gas Concentrations										
Date monitored	-	02/02/10	22/03/10	21/06/10	19/10/10	13/01/11	01/04/11	23/06/11	07/09/11	
Time of measurement	-	02:00	15:25	16:00	15:25	10:05	10:40	13:41	09:59	
Methane	% vol	0.00	<0.1	<0.1	<0.1	-0.2	<0.1	<0.1	<0.1	
Carbon Dioxide	% vol	9.10	6.6	6.6	4.6	20.3	5.5	4.7	6.3	
Oxygen	% vol	15.80	14.2	14.4	18.2	20.1	18.8	14.8	15.5	
Atmospheric Pressure	mbar	1008.00	1000	1017	1001	994	1002	1010	995	
Gas Pressure	mbar	0.05	0.01	+/-0.01	-0.08	0.11	-0.04	0.00	-0.05	
Gas Flow Rate	l/hr	0.00	-0.1	+/-0.1	+/-0.1	-0.1	0.0	<0.1	-0.2	
Insitu Liquid Determinations										
pH	pH units									
Electrical Conductivity	µS/cm									
Dissolved Oxygen	mg/l									
Temperature	℃									
Comment				BH leaning, needs maintenance				Monitoring point at a 30 degrees angle		

Well Removed as Part of Phase 3 Restoration Works

Ness Farm Landfill
Field Monitoring Sheet

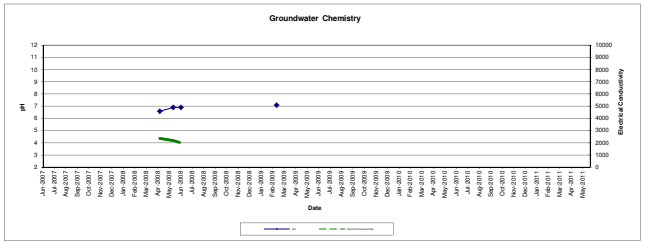
Sampling Location	N5(50mm)																		
Type Of Sample Required	Leachate	22/06/04	04/08/04	25/08/04	27/09/04	28/10/04	17/11/04	15/12/04	26/01/05	10/03/05	21/04/05	15/05/05	01/07/05	20/07/05	15/08/05	15/09/05	28/10/05	16/11/05	08/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	2.39	2.35	2.36	2.37	2.37	2.92	2.36	2.93	2.95	2.40	2.51	2.21	2.82	Dry	Dry	Dry	Dry	2.78
Borehole depth to top of casing	m	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25
Top of casing relative to Ordnance Datum Level	m	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97
Water level relative to Ordnance Datum	m	23.58	23.62	23.61	23.60	23.60	23.05	23.61	23.04	23.02	23.57	23.46	23.76	23.15					23.19
Calculated purge volume	litres	6.88	7.20	7.12	7.04	7.04	2.64	7.12	2.56	2.40	6.80	5.92	8.32	3.44					3.76
Base of Well relative to Ordnance Datum		22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72
Gas Concentrations																			
Date monitored	-	22/06/2004	04/08/2004	25/08/2004	27/09/2004	28/10/2004	17/11/2004	15/12/2004	26/01/2005	10/03/2005	21/04/2005	15/05/2005	01/07/2005	20/07/2005	15/08/2005	15/09/2005	28/10/2005	16/11/2005	08/12/2005
Time of measurement	-		12:40	0900hrs	9:25	15:40	14:40	11:30	11:00	10:00	12.40pm	11.15	3.45	10:39		12:15	16:11	11:45	11:05
Methane	% vol	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	1.4		13.4	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	5.9	7.7	10.4	10.4	10	12.6	<0.1	12.2	4.4	<0.1	<0.1	8.9	1.1		9.6	6	6	13.4
Oxygen	% vol	15.7	12.8	11.7	11.8	12	5.3	20.9	6.3	17	16.5	21.5	19.9	16.4		21.2	14.3	13.9	4.8
Atmospheric Pressure	mbar	1006	1013	1004	1007	1007	997	1001	1032	1017	1010	1012	1019	1015		1001	993	1007	1017
Gas Pressure	mbar	0.0		2.9	2.6	2.6	5.8	2.1	5.8	<0.1	5.8	<0.1	0.1	2.1		1.1		0	0
Gas Flow Rate	l/hr	<0.1		2.6	2.7	2.6	3.6	2.1	3.4	1.6	1.2	<0.1	0.1	1.1		0.1		<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units											7.41		7.41					
Electrical Conductivity	µS/cm											8170		8170					
Dissolved Oxygen	mg/l											12.2		12.2					
Temperature	ºC											11.1		11.1					
Comment		Insufficient sample			Insufficient Sample	Insufficent to Sample	Insufficent to Sample	Insufficent to Sample	Insufficient to Sample	Insufficent Sample	Insufficent Sample		Insufficent Sample		Cannot Access				





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N5(50mm)**																							
Type Of Sample Required	Leachate	10/01/06	10/02/06	22/03/06	12/04/06	04/05/06	26/06/06	18/07/06	09/08/06	06/09/06	03/10/06	09/11/06	07/12/06	11/01/07	08/02/07	13/03/07	19/04/07	10/05/07	11/06/07	23/07/07	09/08/07	09/09/07	12/10/07	15/11/07
Determinand	Units																							
Water Level																								
Water level to top of casing	m	2.64	2.56	2.33	2.41	2.15	2.58	2.69	2.61	DRY	DRY	2.97	2.71	2.20	2.15	2.12	2.20	2.25	2.54	2.61	2.51	2.51	2.50	2.52
Borehole depth to top of casing	m	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25
Top of casing relative to Ordnance Datum Level	m	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97
Water level relative to Ordnance Datum	m	23.33	23.41	23.64	23.56	23.82	23.39	23.28	23.36			23.00	23.26	23.77	23.82	23.85	23.77	23.72	23.43	23.36	23.46	23.46	23.47	23.45
Calculated purge volume	litres	4.88	5.52	7.36	6.72	8.80	5.36	4.48	5.12			2.24	4.32	8.40	8.80	9.04	8.40	8.00	5.68	5.12	5.92	5.92	6.00	5.84
Base of Well relative to Ordnance Datum		22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72
Gas Concentrations																								
Date monitored	-	10/01/2006	10/02/2006	22/03/2006	12/04/2006	04/05/2006	26/06/2006	18/07/2006	09/08/2006	06/09/2006	03/10/2006	09/11/2006	07/12/2006	11/01/2007	08/02/2007	13/03/2007	19/04/2007	10/05/2007	11/06/2007	23/07/2007	09/08/2007	09/09/2007	12/10/2007	15/11/2007
Time of measurement	-	13:15	13:45	11:45	13:12	11:06	14:38	16:20	14:21	14:15	14:52	13:35	12:40	13:26	12:11	13:39	13:09	15:07	15:17	13:35	14:20	14:20	12:35	14:50
Methane	% vol	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	0	0.1	0.1	0	0	0	0	0.5	0.6	0	0.2	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	2.4	2.00	2.70	2.1	0.3	14.9	7.8	10.3	5	7.9	5.7	4.5	4	7.4	8.2	9	9.9	12.8	10.1	10.7	10.7	6.4	9.8
Oxygen	% vol	19.8	20.20	20.00	20.1	20.4	7.4	13.1	10.8	16.3	14.4	15.6	16.7	18.7	16.1	15.9	16.2	16.8	8.7	10.3	10.1	10.1	15.9	11.6
Atmospheric Pressure	mbar	996	1019	1010	1000	1013	1012	1014	1002	1001	994	1025	963	973	990	1014	1012	996	1009	999	1016	1016	1008	1015
Gas Pressure	mbar	0	<0.1	<0.1	<0.1	<0.1	<0.1	0.7	<0.1	1	<0.1	2	0.6	1.3	1	1.3	1.7	0.9	1.8	<0.1	<0.1	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr	<0.1	+0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																								
pH	pH units																							
Electrical Conductivity	µS/cm																							
Dissolved Oxygen	mg/l																							
Temperature	ºC																							
Comment			Insufficient liquid to obtain sample	Insufficient liquid to obtain sample	Insufficient liquid to obtain sample	Insufficient liquid to obtain sample	Insufficient liquid to obtain sample	Insufficient liquid to obtain sample	Insufficient liquid to obtain sample			Insufficient water to purge	Insufficient water to purge	Insufficient water to purge	Insufficient water to purge	Insufficient water to purge	Insufficient water to purge	Insufficient water to purge	Insufficient water to purge	Insufficient water to purge	Insufficient water to purge		Insufficient water to purge	Insufficient water to purge



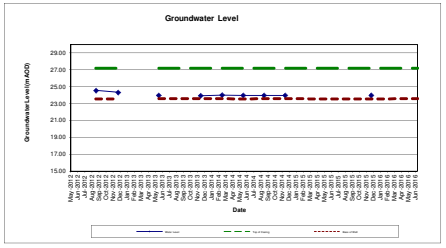
Ness Farm Landfill
Field Monitoring Sheet

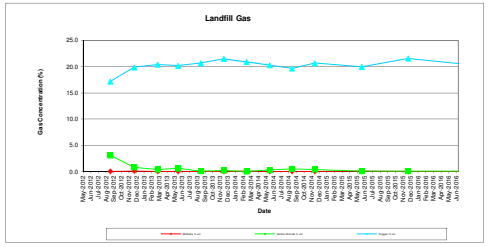
Sampling Location	**N5(50mm)**																					(Sept mon)	(Dec Mon)		
Type Of Sample Required	Leachate	11/12/07	15/01/08	07/02/08	11/03/08	22/04/08	28/05/08	17/06/08	29/07/08	26/08/08	25/09/08	30/10/08	28/11/08	18/12/08	28/01/09	26/02/09	26/03/09	23/06/09	30/10/09	02/02/10	22/03/10	21/06/10	19/10/10	13/01/11	01/04/11	Monitoring well knocked over during Phase 3 restoration works and re-drilled as well N5A on 30th May 2012
Determinand	Units																								
Water Level																									
Water level to top of casing	m	2.65	2.11	2.27	2.31	2.34	2.40	2.38	2.69	2.74	2.80	2.71	2.69	2.27	1.47	1.26	1.54	2.65	1.43	Dry	1.51	2.51	2.84	DRY	DRY	
Borehole depth to top of casing	m	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	5.07	3.08	3.08			
Top of casing relative to Ordnance Datum Level	m	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	25.97	
Water level relative to Ordnance Datum	m	23.32	23.86	23.70	23.66	23.63	23.57	23.59	23.28	23.23	23.17	23.26	23.28	23.70	24.50	24.71	24.43	23.32	24.54		24.46	23.46	23.13			
Calculated purge volume	litres	4.80	9.12	7.84	7.52	7.28	6.80	6.96	4.48	4.08	3.60	4.32	4.48	7.84												
Base of Well relative to Ordnance Datum		22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	22.72	20.90	22.89	22.89			
Gas Concentrations																									
Date monitored	-	11/12/2007	15/01/2008	07/02/2008	11/03/2008	22/04/2008	28/05/2008	17/06/2008	29/07/2008	26/08/2008	25/09/2008	30/10/08	28/11/08	18/12/08	28/01/09	26/02/09	26/03/09	23/06/09	30/10/09	02/02/10	22/03/10	21/06/10	19/10/10	13/01/11	01/04/11	
Time of measurement	-	12:16	11:10	12:40	15:05				00:00	14:22	14:38	0.00	12.12	13.03	14.02	10.36	15.01	12.31	11.22	15.17	15:40	16:11	15:16	10:15	10:30	
Methane	% vol	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.10	0.00	0.70	0.10	0.40	0.20	<0.1	0.1	<0.1	-0.8	<0.1	
Carbon Dioxide	% vol	6.5	3.6	3.5	4.1	11	11.4	7.4	5.0	6.0	6.5	0.00	5.40	3.70	9.00	7.80	15.80	8.70	9.40	4.90	<0.1	11.5	8.5	-0.5	1.6	
Oxygen	% vol	15.1	18.4	18.7	18.2	9.7	11	15.3	17.3	15.3	14.7	0.00	17.80	19.20	16.10	17.40	11.20	11.20	13.10	19.50	20.6	11.0	14.8	17.9	19.4	
Atmospheric Pressure	mbar	1024	979	981	967	1011	1005	997	1000	999	1024	0	999	1001	1014	1013	984	1027	1019	1008	1000	1017	1001	994	1002	
Gas Pressure	mbar	0.5	0.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	0.67	#REF!	-0.23	-0.05	-0.02	0.02	0.07	0.00	0.18	0.01	-0.14	-0.2	-0.12	
Gas Flow Rate	l/hr	<0.1	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	<0.1	0.10	-4.20	-1.10	-4.30	<0.1	<0.1	0.00	+/-0.1	+/-0.1	+/-0.1	-0.5	-0.1	
Insitu Liquid Determinations																									
pH	pH units					6.6	6.9	6.9								7.09										
Electrical Conductivity	µS/cm					2359	2190	1990								2128										
Dissolved Oxygen	mg/l															0.96										
Temperature	℃					8	9	10								8.91										
Comment		Insufficient water to purge	Insufficient water to purge	Insufficient water to purge	Insufficient water to purge							Equipment Failure										No bung or tap, BH venting.			No Tap	

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N5A														
Type Of Sample Required	Groundwater	06/09/12	11/12/12	14/03/13	05/06/13	03/09/13	04/12/13	05/03/14	05/06/14	03/09/14	03/12/14	08/06/15	11/12/15	30/06/16	
Determinand	Units														
Water Level															
Water level to top of casing	m	2.64	2.87		3.23	Dry	3.26	3.18	3.24	3.23	3.22	Dry	3.21	Dry	
Borehole depth to top of casing	m	3.64	3.64		3.62	3.61	3.61	3.62	3.64	3.61	3.63	3.64	3.64	3.62	
Top of casing relative to Ordnance Datum Level	m	27.20	27.20		27.20	27.20	27.20	27.20	27.20	27.20	27.20	27.20	27.20	27.20	
Water level relative to Ordnance Datum	m	24.56	24.33		23.97		23.94	24.02	23.96	23.97	23.98		23.99		
Calculated purge volume	litres														
Base of Well relative to Ordnance Datum		23.56	23.56		23.58	23.59	23.59	23.58	23.56	23.59	23.57	23.56	23.56	23.58	
Gas Concentrations															
Date monitored	-	06/09/12	11/12/12	14/03/13	05/06/13	03/09/13	04/12/13	05/03/14	05/06/14	03/09/14	03/12/14	08/06/15	11/12/15	30/06/16	
Time of measurement	-	10:21	15:21	10:18	13:15	15:43	15:09	14:24	12:16	14:31	13:49	12:14	12:57	12:10	
Methane	% vol	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	
Carbon Dioxide	% vol	3.1	0.8	0.4	0.6	0.1	0.2	<0.1	0.3	0.5	0.4	0.1	0.1	0.1	
Oxygen	% vol	17.2	19.9	20.4	20.2	20.7	21.5	20.9	20.3	19.7	20.7	20	21.6	20.6	
Atmospheric Pressure	mbar	1015	1029	1010	1022	1019	1016	1011	1004	1021	1023	1034	1005	999	
Gas Pressure	mbar	<0.01	0.04	0.05	<0.01	0.05	-0.09	-0.04	-0.21	-0.22	0.09	0.02	-0.02	<0.01	
Gas Flow Rate	l/hr	<0.1	0.1	<0.1	0.2	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Insitu Liquid Determinations															
pH	pH units														
Electrical Conductivity	µS/cm														
Dissolved Oxygen	mg/l														
Temperature	°C														
Comment				Casing badly dented and bung stuck.											

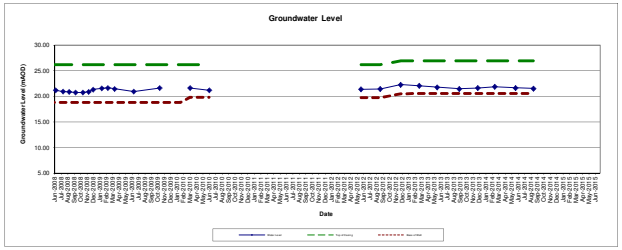
Cover Level - 27.20m AOD
Ground Level - 26.36m AOD

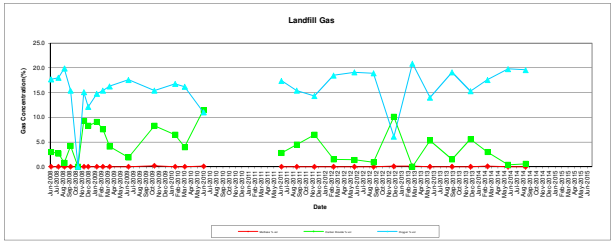




Ness Farm Landfill
Field Monitoring Sheet

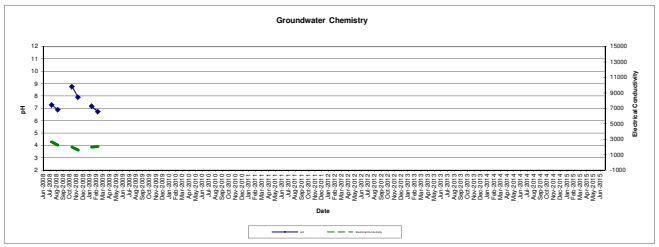
Sampling Location	**N6**																		
Type Of Sample Required	Groundwater	24/06/04	05/08/04	25/08/04	28/09/04	05/11/04	17/11/04	16/12/04	26/01/05	10/03/05	21/04/05	15/05/05	01/07/05	22/07/05	15/08/05	14/09/05	29/10/05	18/11/05	13/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	5.13	5.15	5.15	5.65	5.64	5.63	5.30	5.64	3.80	5.20	5.55	3.86	4.72	5.30	5.27		5.62	5.36
Borehole depth to top of casing	m	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35
Top of casing relative to Ordnance Datum Level	m	*26.17*	*26.17*	*26.17*	*26.17*	*26.17*	*26.17*	*26.17*	*26.17*	*26.17*	*26.17*	*26.17*	*26.17*	*26.17*	*26.17*	*26.17*	*26.17*	*26.17*	*26.17*
Water level relative to Ordnance Datum	m	21.04	21.02	21.02	20.52	20.53	20.54	20.87	20.53	22.37	20.97	20.62	22.31	21.45	20.87	20.90		20.55	20.81
Calculated purge volume	litres	13.32																	
Base of Well relative to Ordnance Datum		18.82	18.82	18.82	18.82	18.82	18.82	18.82	18.82	18.82	18.82	18.82	18.82	18.82	18.82	18.82	18.82	18.82	18.82
Gas Concentrations																			
Date monitored	-	24/06/2004	05/08/2004	25/08/2004	28/09/2004	05/11/2004	17/11/2004	16/12/2004	26/01/2005	10/03/2005	21/04/2005	15/05/2005	01/07/2005	22/07/2005	15/08/2005	14/09/2005	29/10/2005	18/11/2005	13/12/2005
Time of measurement	-		10:00	1600hrs	9:00	11:00	16:00	14:00	11:10	14:30	1.20pm	11.49	5.20	11:41	2.24	9:40	13:27	10:55	12:35
Methane	% vol	<0.1	<0.1	<0.1	0.2	0.2	0.1	<0.1	0.1	0.1	0.1	0.1	0.1	2.1	0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	1.3	1	<0.1	10.3	<0.1	8.5	<0.1	0.2	10.2	1.6	<0.1	0.5	5.8	5.8	4.3
Oxygen	% vol	20.8	21.2	20.8	20.4	20.4	20.3	10.2	20.6	12.7	21.4	20.2	15.6	19.5	18.6	20.5	12.3	3.8	15.8
Atmospheric Pressure	mbar	994	1014	996	1021	1008	998	972	1032	1014	1010	1010	1019	1019	1015	1008	1003	1025	1028
Gas Pressure	mbar	0.0		2.7	9.6	9.5	9.4	0.3	8.7	1.5	1.2	1.1	1.1	0.1	0.1	0.0		0	0
Gas Flow Rate	l/hr	<0.1		2.6	3	3	3.1	1.9	3.4	1.1	2.3	1.8	0.1	<0.1	<0.1	<0.1		0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units	6.87						6.52		6.6	6.73	6.39	7.26	6.39		6.14			6.46
Electrical Conductivity	µS/cm	2052						2360		2569	2610	3710	1213	3710		2140			1642
Dissolved Oxygen	mg/l	4.11						8		10	3.65	18.6	12.1	18.6		12.1			5.58
Temperature	℃	10.1						10.3		9.5	9.2	10	10	10		13			11.6
Comment		Insufficient sample			Insufficient Sample	Not required	Not required												





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N6**																							
Type Of Sample Required	Groundwater	13/01/06	16/02/06	23/03/06	18/04/06	08/05/06	06/06/06	18/07/06	10/08/06	12/09/06	05/10/06	10/11/06	12/12/06	00/01/00	00/01/00	14/03/07	23/04/07	22/05/07	14/06/07	30/07/07	14/08/07	13/09/07	17/10/07	19/11/07	11/12/07
Determinand	Units																							
Water Level																								
Water level to top of casing	m	5.12	4.93	4.89	4.84	4.76	5.01	Dry	Dry	5.55	5.50	5.41	5.45			5.48	5.49	5.15	5.23	5.30	5.22	5.30	5.22	5.20	5.27
Borehole depth to top of casing	m	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35			7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35
Top of casing relative to Ordnance Datum Level	m	*26.17*	*26.17*	*26.17*	*26.17*	*26.17*	*26.17*	*26.17*	*26.17*	*26.17*	*26.17*	*26.17*	*26.17*			*26.17*	*26.17*	*26.17*	*26.17*	*26.17*	*26.17*	*26.17*	*26.17*	*26.17*	26.17
Water level relative to Ordnance Datum	m	21.05	21.24	21.28	21.33	21.41	21.16			20.62	20.67	20.76	20.72				20.68	21.02	20.94	20.87	20.95	20.87	20.95	20.97	20.90
Calculated purge volume	litres						8.00			0.00	N/A	N/A	N/A												
Base of Well relative to Ordnance Datum		18.82	18.82	18.82	18.82	18.82	18.82	18.82	18.82	18.82	18.82	18.82	18.82			18.82	18.82	18.82	18.82	18.82	18.82	18.82	18.82	18.82	18.82
Gas Concentrations																								
Date monitored	-	13/01/2006	16/02/2006	23/03/2006	18/04/2006	08/05/2006	06/06/2006	18/07/2006	10/08/2006	12/09/2006	05/10/2006	10/11/2006	12/12/2006			14/03/2007	23/04/2007	22/05/2007	14/06/2007	30/07/2007	14/08/2007	13/09/2007	17/10/2007	19/11/2007	11/12/2007
Time of measurement	-	12:45	15:28	14:08	12:45	12:00	15:06	11:52	12:07	14:00	10:00	12:15	09:30			15:40	10:00	10:50	12:45	15:00	13:47	12:15	14:10	15:45	11:35
Methane	% vol	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	0	0	0.2	0			0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	11	11.10	4.20	3.3	1.2	2.8	0.7	0.9	1.2	1.4	8.4	7.5			2.1	2	2.3	2.5	2.1	1.7	1.5	3.8	4.2	6.2
Oxygen	% vol	5.5	9.60	15.90	17.5	18.9	17.7	20.0	19.8	19.6	19.5	9.5	10.8			19.3	19.4	17	17.2	17.9	18.2	18.8	16.0	16.2	13.9
Atmospheric Pressure	mbar	1005	969	1003	1004	1019	1015	1017	1011	1002	1002	1010	992			1015	1003	1010	1004	1014	993	1015	1013	1012	1035
Gas Pressure	mbar	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	-0.3	<0.1	<0.1	<0.1	0.8	0.3			<0.1	<0.1	0.7	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	0.3
Gas Flow Rate	l/hr	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units			6.52			6.91																		
Electrical Conductivity	µS/cm			1680			2970																		
Dissolved Oxygen	mg/l			1.41			3.38																		
Temperature	℃			10.3			11.6																		
Comment							Liquid was dark brown colour			Insufficient liquid to obtain sample			Insufficient liquid to obtain sample	Access road blocked off for repairs	Access road blocked off for repairs	Insufficient water to purge	Insufficient liquid to obtain sample		Insufficient liquid to obtain sample					Insufficient water to purge



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N6**																	
Type Of Sample Required	Groundwater	21/01/08	19/02/08	12/03/08	22/04/08	30/05/08	24/06/08	30/07/08	27/08/08	26/09/08	31/10/08	28/11/08	19/12/08	29/01/09	27/02/09	31/03/09	29/06/09	30/10/09
Determinand	Units																	
Water Level																		
Water level to top of casing	m	5.09	5.18	4.79	4.86	4.98	4.98	5.21	5.30	5.39	5.43	5.26	4.81	4.60	4.51	4.69	5.21	4.55
Borehole depth to top of casing	m	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35
Top of casing relative to Ordnance Datum Level	m	26.17	26.17	26.17	26.17	26.17	26.17	26.17	26.17	26.17	26.17	26.17	26.17	26.17	26.17	26.17	26.17	26.17
Water level relative to Ordnance Datum	m	21.08	20.99		21.31	21.19	21.19	20.96	20.87	20.78	20.74	20.91	21.36	21.57	21.66	21.48	20.96	21.62
Calculated purge volume	litres				20	19	19	17	16	16	15.36	16.72	20.32	22.00	22.72	21.28	17.12	
Base of Well relative to Ordnance Datum		18.82	18.82	18.82	18.82	18.82	18.82	18.82	18.82	18.82	18.82	18.82	18.82	18.82	18.82	18.82	18.82	18.82
Gas Concentrations																		
Date monitored	-	21/01/2008	19/02/2008	12/03/2008	22/04/2008	30/05/2008	24/06/2008	30/07/2008	27/08/2008	26/09/2008	31/10/08	28/11/08	19/12/08	29/01/09	27/02/09	31/03/09	29/06/09	30/10/09
Time of measurement	-	15:40	15:50	16:00	00:00	00:00	00:00	00:00	15:53	16:39	0.00	10.15	12.31	15.36	15.29	12.00	16.28	10.22
Methane	% vol	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
Carbon Dioxide	% vol	6.5	6.8	10.2	3.4	0.8	3.0	2.7	0.8	4.2	0.00	9.30	8.30	9.10	7.60	4.10	1.90	8.30
Oxygen	% vol	14.3	14.6	10.4	17.3	20	17.7	18.0	19.9	15.4	0.00	15.10	12.10	14.80	15.40	16.30	17.60	15.40
Atmospheric Pressure	mbar	1002	996	982	1012	1011	1011	1002	1000	1019	0.00	1000.00	1012.00	1017.00	1014.00	1016.00	1014.00	1017.00
Gas Pressure	mbar	<0.1	<0.1	0.5	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.00	0.03	#REF!	0.02	0.00	0.09	-0.06	0.03
Gas Flow Rate	l/hr	<0.1	<0.1	0.5	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.00	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																		
pH	pH units				7.8	7		7.3	6.9		8.77	7.9		7.18	6.75			
Electrical Conductivity	µS/cm				13700	2500		2630	2210		1980	1610		1964	2067			
Dissolved Oxygen	mg/l										2.54			2.5	2.28			
Temperature	ºC					9		9	8		10.39	8		12.36	8.93			
Comment		Insufficient water to purge	Insufficient water to purge	Insufficient water to purge							Equipment Failure							

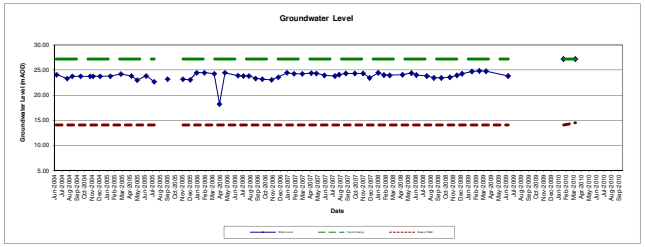
Ness Farm Landfill
Field Monitoring Sheet

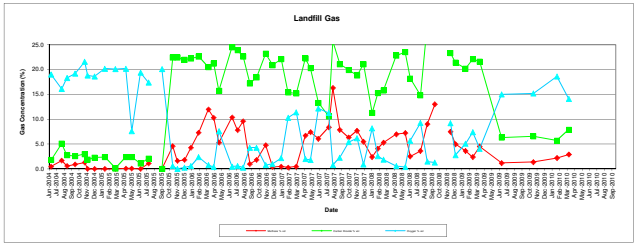
Sampling Location	**N6**				(Sept mon)		(Dec Mon)																
Type Of Sample Required	Groundwater	05/02/10	23/03/10	21/06/10	19/10/10	15/11/10	13/01/11	01/04/11	27/06/11	07/09/11	01/12/11	01/03/12	08/06/12	07/09/12	13/12/12	11/03/13	03/06/13	16/09/13	13/12/13	03/03/14	09/06/14	01/09/14	
Determinand	Units																						
Water Level																							
Water level to top of casing	m	Dry	4.53	4.99					Dry				4.80	4.74	4.63	4.86	5.13	5.44	5.28	5.05	5.26	5.38	
Borehole depth to top of casing	m	7.35	6.34	6.35									6.40	6.41	6.39	6.38	6.37	6.33	6.35	6.36	6.33	6.33	
Top of casing relative to Ordnance Datum Level	m	26.17	26.17	26.17					26.17				26.17	26.17	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	
Water level relative to Ordnance Datum	m		21.64	21.18									21.37	21.43	22.29	22.06	21.79	21.48	21.64	21.87	21.66	21.54	
Calculated purge volume	litres																						
Base of Well relative to Ordnance Datum		18.82	19.83	19.82					26.17				19.77	19.76	20.53	20.54	20.55	20.59	20.57	20.56	20.59	20.59	
Gas Concentrations																							
Date monitored	-	05/02/10	23/03/10	21/06/10					27/06/11	07/09/11	01/12/12	01/03/12	08/06/12	07/09/12	13/12/12	11/03/13	03/06/13	16/09/13	13/12/13	03/03/14	09/06/14	01/09/14	
Time of measurement	-	12.32	13:20	16:11					8:59	15:09	14:22	13:06	10:38	14:02	09:58	13:06	13:34	14:29	11:55	14:30	10:43	14:49	
Methane	% vol	0.00	<0.1	0.1					<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	
Carbon Dioxide	% vol	6.50	4.0	11.5					2.8	4.5	6.5	1.5	1.4	0.9	10.1	<0.1	5.3	1.5	5.6	3	0.4	0.6	
Oxygen	% vol	16.80	16.2	11.0					17.4	15.4	14.3	18.5	19.1	18.9	6.1	20.9	14	19.1	15.3	17.6	19.8	19.6	
Atmospheric Pressure	mbar	1018.00	1008	1017					1013	995	1000	1019	993	1015	1005	1022	1029	986	1006	985	1016	1016	
Gas Pressure	mbar	0.06	0.07	0.01					0.09	0.03	0.25	0.05	0.02	0.01	-0.25	-0.07	-0.22	0.06	-0.02	<0.01	-0.47	0.36	
Gas Flow Rate	l/hr	0.00	+/-0.1	+/-0.1					<0.1	<0.1	-0.2	0.2	-0.1	-0.1	0.1	0.1	-0.1	<0.1	0.2	<0.1	<0.1	0.2	
Insitu Liquid Determinations																							
pH	pH units																						
Electrical Conductivity	µS/cm																						
Dissolved Oxygen	mg/l																						
Temperature	℃																						
Comment					Bolt seized, no access	Visit not undertaken due to adverse weather	Unable to open	Unable to open															

Well no longer monitored (14th Noveber 2014)

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N7																					
Type Of Sample Required	None	22/06/04	04/08/04	25/08/04	27/09/04	05/11/04	17/11/04	15/12/04	26/01/05	10/03/05	21/04/05	15/05/05	20/06/05	22/07/05	15/08/05	15/09/05	28/10/05	16/11/05	15/12/05	10/01/06	10/02/06	22/03/06
Determinand	Units																					
Water Level																						
Water level to top of casing	m	3.09	3.91	3.46	3.46	3.45	3.42	3.43	3.42	3.00	3.40	4.20	3.36	4.51		4.00		4.04	4.15	2.75	2.71	2.95
Borehole depth to top of casing	m	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11		13.11		13.11	13.11	13.11	13.11	13.11
Top of casing relative to Ordnance Datum Level	m	27.19	27.19	27.19	27.19	27.19	27.19	27.19	27.19	27.19	27.19	27.19	27.19	27.19		27.19		27.19	27.19	27.19	27.19	27.19
Water level relative to Ordnance Datum	m	24.10	23.28	23.73	23.73	23.74	23.77	23.76	23.77	24.19	23.79	22.99	23.83	22.68		23.19		23.15	23.04	24.44	24.48	24.24
Calculated purge volume	litres																					
Base of Well relative to Ordnance Datum		14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08		14.08		14.08	14.08	14.08	14.08	14.08
Gas Concentrations																						
Date monitored	-	22/06/2004	04/08/2004	25/08/2004	27/09/2004	05/11/2004	17/11/2004	15/12/2004	26/01/2005	10/03/2005	21/04/2005	15/05/2005	20/06/2005	22/07/2005	15/08/2005	15/09/2005	28/10/2005	16/11/2005	15/12/2005	10/01/2006	10/02/2006	22/03/2006
Time of measurement	-		12:37	0950hrs	10:20	11:05	14:50	11:20	11:20	09:55	2.00pm	12.50	8.00	14:26		15:20	16:20	11:53	15:10	13:26	13:37	11:52
Methane	% vol	0.5	1.7	0.6	0.9	1.3	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	1.1		<0.1	4.6	1.6	1.8	4.3	7.30	12.00
Carbon Dioxide	% vol	1.8	5.1	2.8	2.6	3	1.9	2.3	2.4	0.1	2.4	2.4	1.1	2.1		<0.1	22.4	22.4	22	22.2	22.60	20.50
Oxygen	% vol	19.0	16.1	18.3	19.2	21.6	18.8	18.6	20.2	20.1	20.2	7.6	19.4	17.4		20.1	0.6	<0.1	0.3	0.6	2.40	0.80
Atmospheric Pressure	mbar	1007	1013	1004	1007	1009	998	1001	1031	1017	1010	1010	1010	1015		1001	993	1007	1009	996	1019	1010
Gas Pressure	mbar	0.0		2.9	2.8	2.8	6	2	5.8	<0.1	4.1	1.2	1.1	0.1		0.1		1.3	1.1	1.8	1	0.8
Gas Flow Rate	l/hr	0.1	<0.1	2.6	2.6	2.7	3.6	2.2	3.4	1.4	2.3	0.6	0.1	0.1		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																						
pH	pH units																					
Electrical Conductivity	µS/cm																					
Dissolved Oxygen	mg/l																					
Temperature	℃																					
Comment															Cannot Access							





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N7**																								
Type Of Sample Required	None	12/04/06	04/05/06	26/06/06	18/07/06	10/08/06	06/09/06	03/10/06	09/11/06	07/12/06	11/01/07	08/02/07	13/03/07	19/04/07	10/05/07	11/06/07	23/07/07	09/08/07	06/09/07	12/10/07	15/11/07	11/12/07	15/01/08	07/02/08	01/03/08
Determinand	Units																								
Water Level																									
Water level to top of casing	m	8.96	2.73	3.33	3.40	3.35	3.86	4.02	4.14	3.61	2.73	2.96	2.96	2.82	2.85	3.28	3.38	3.13	2.89	2.86	2.89	3.76	2.77	3.21	3.23
Borehole depth to top of casing	m	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11
Top of casing relative to Ordnance Datum Level	m	27.19	27.19	27.19	27.19	27.19	27.19	27.19	27.19	27.19	27.19	27.19	27.19	27.19	27.19	27.19	27.19	27.19	27.19	27.19	27.19	27.19	27.19	27.19	27.19
Water level relative to Ordnance Datum	m	18.23	24.46	23.86	23.79	23.84	23.33	23.17	23.05	23.58	24.46	24.23	24.23	24.37	24.34	23.91	23.81	24.06	24.30	24.33	24.30	23.43	24.42	23.98	23.96
Calculated purge volume	litres																								
Base of Well relative to Ordnance Datum		14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08
Gas Concentrations																									
Date monitored	-	12/04/2006	04/05/2006	26/06/2006	18/07/2006	10/08/2006	06/09/2006	03/10/2006	09/11/2006	07/12/2006	11/01/2007	08/02/2007	13/03/2007	19/04/2007	10/05/2007	11/06/2007	23/07/2007	09/08/2007	06/09/2007	12/10/2007	15/11/2007	11/12/2007	15/01/2008	07/02/2008	11/03/2008
Time of measurement	-	13:19	11:11	14:46	16:13	14:29	14:08	15:07	13:26	12:31	13:18	12:16	13:44	13:02	15:15	15:33	13:49	14:30	14:22	12:45	15:00	15:03	11:05	12:50	14:55
Methane	% vol	10.3	5.3	10.4	7.8	9.6	1	1.8	4.8	0.4	0.5	0.3	0.5	6.7	7.4	6.1	8.4	16.3	7.9	6.3	7.7	5.5	2.4	4.1	5.3
Carbon Dioxide	% vol	21.2	15.7	24.5	23.9	22.6	17.2	18.4	23.2	20.9	22.1	15.4	15.2	22.2	20.3	13.3	10.6	25.7	21.1	19.9	18.8	21.1	11.3	15.3	15.8
Oxygen	% vol	0.4	7.6	0.5	0.6	0.3	4.3	4.3	0.8	1	2.2	10.3	11.4	2	1.8	12.2	11.3	0.8	2.3	5.4	6.2	0.9	8.2	2.6	1.9
Atmospheric Pressure	mbar	1000	1013	1012	1014	1001	1001	994	1025	963	972	990	1014	1012	996	1009	1000	1016	1025	1008	1015	1023	979	981	967
Gas Pressure	mbar	0.4	0.2	<0.1	2.9	1.2	2.6	<0.1	0.8	0.4	0.9	0.5	0.7	1.7	1.3	4									
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	0.2	<0.1	0.1	<0.1	<0.1	0.2	<0.1	0.4	0.3	0.2	0.1	0.8									
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	ºC																								
Comment																	Valve stuck shut. Venting reading	Valve stuck shut. Venting reading	Valve stuck shut. Venting reading	Valve stuck shut. Venting reading	Valve stuck shut. Venting reading	Valve stuck shut. Venting reading	Valve stuck shut. Venting reading	Valve stuck shut. Venting reading	Valve stuck shut. Venting reading

Ness Farm Landfill
Field Monitoring Sheet

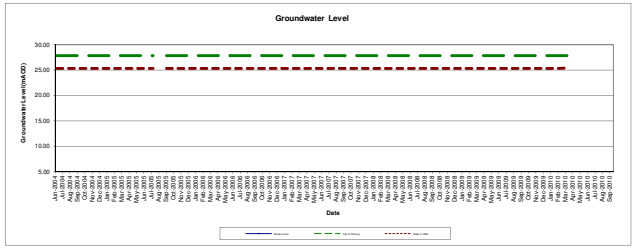
Sampling Location	**N7**	
Type Of Sample Required	None	22/04/08
Determinand	Units	
Water Level		
Water level to top of casing	m	3.14
Borehole depth to top of casing	m	13.11
Top of casing relative to Ordnance Datum Level	m	27.19
Water level relative to Ordnance Datum	m	24.05
Calculated purge volume	litres	
Base of Well relative to Ordnance Datum		14.08
Gas Concentrations		
Date monitored	-	22/04/2008
Time of measurement	-	
Methane	% vol	7
Carbon Dioxide	% vol	22.8
Oxygen	% vol	0.6
Atmospheric Pressure	mbar	1011
Gas Pressure	mbar	
Gas Flow Rate	l/hr	
Insitu Liquid Determinations		
pH	pH units	
Electrical Conductivity	µS/cm	
Dissolved Oxygen	mg/l	
Temperature	℃	
Comment		Valve stuck shut. Venting reading

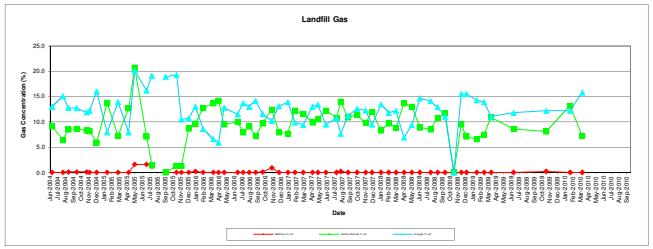
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N7																
Type Of Sample Required	None	28/05/08	17/06/08	29/07/08	26/08/08	25/09/08	30/10/08	28/11/08	18/12/08	28/01/09	26/02/09	26/03/09	23/06/09	30/10/09	02/02/10	22/03/10	Well removed as part of Phase 2 restoration works
Determinand	Units																
Water Level																	
Water level to top of casing	m	2.78	3.21	3.40	3.73	3.76	3.63	3.26	2.93	2.49	2.36	2.43	3.38		0.00	2.88	
Borehole depth to top of casing	m	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11		13.11	12.69	
Top of casing relative to Ordnance Datum Level	m	27.19	27.19	27.19	27.19	27.19	27.19	27.19	27.19	27.19	27.19	27.19	27.19		27.19	27.19	
Water level relative to Ordnance Datum	m	24.41	23.98	23.79	23.46	23.43	23.56	23.93	24.26	24.70	24.83	24.76	23.81		27.19	27.19	
Calculated purge volume	litres												77.84				
Base of Well relative to Ordnance Datum		14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08	14.08		14.08	14.50	
Gas Concentrations																	
Date monitored	-	28/05/2008	17/06/2008	29/07/2008	26/08/2008	25/09/2008	30/10/08	28/11/08	18/12/08	28/01/09	26/02/09	26/03/09	23/06/09	30/10/09	02/02/10	22/03/10	
Time of measurement	-			00:00	14:16	14:48		12.07	12.54	13.57	10.31	14.54	12.22	11.30	15.11	17:05	
Methane	% vol	7.2	2.5	3.6	9.0	13.0		7.50	5.00	3.60	2.40	4.50	1.20	1.40	2.20	2.9	
Carbon Dioxide	% vol	23.5	18.2	14.8	29.1	28.8		23.30	21.40	20.20	22.10	21.60	6.30	6.60	5.70	7.9	
Oxygen	% vol	0.4	5.7	9.3	1.5	1.3		9.20	2.80	5.10	7.40	4.10	15.00	15.20	18.60	14.1	
Atmospheric Pressure	mbar	1005	997	1000	999	1024		999	1001	1014	1013	984	1027	1019	1008	1000	
Gas Pressure	mbar														0.00	-0.04	
Gas Flow Rate	l/hr														0.00	+/-0.1	
Insitu Liquid Determinations																	
pH	pH units																
Electrical Conductivity	µS/cm																
Dissolved Oxygen	mg/l																
Temperature	℃																
Comment		Damaged	Damaged	Damaged	Damaged	Damaged	Damaged and Equipment Failure	Damaged	Damaged	Damaged	Damaged	Damaged	Damaged	Damaged			

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N8**																					
Type Of Sample Required	None	22/06/04	04/08/04	25/08/04	27/09/04	05/11/04	17/11/04	15/12/04	26/01/05	10/03/05	21/04/05	15/05/05	01/07/05	22/07/05	00/01/00	15/09/05	28/10/05	16/11/05	15/12/05	10/01/06	10/02/06	22/03/06
Determinand	Units																					
Water Level																						
Water level to top of casing	m	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry		Dry	Dry	Dry	Dry	Dry	DRY	DRY
Borehole depth to top of casing	m	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53		2.53	2.53	2.53	2.53	2.53	2.53	2.53
Top of casing relative to Ordnance Datum Level	m	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87		27.87	27.87	27.87	27.87	27.87	27.87	27.87
Water level relative to Ordnance Datum	m																					
Calculated purge volume	litres																					
Base of Well relative to Ordnance Datum		25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34		25.34	25.34	25.34	25.34	25.34	25.34	25.34
Gas Concentrations																						
Date monitored	-	22/06/2004	04/08/2004	25/08/2004	27/09/2004	05/11/2004	17/11/2004	15/12/2004	26/01/2005	10/03/2005	21/04/2005	15/05/2005	01/07/2005	22/07/2005		15/09/2005	28/10/2005	16/11/2005	15/12/2005	10/01/2006	10/02/2006	22/03/2006
Time of measurement	-		12:34	1100hrs	10:08	11:10	15:10	10:30	10:10	09:50	2.45pm	1.35	7.20	13:30		16:10	16:24	12:00	15:12	13:33	13:31	12:00
Methane	% vol	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.6	1.6	1.3		<0.1	<0.1	<0.1	<0.1	0.2	0.00	0.00
Carbon Dioxide	% vol	9.1	6.4	8.5	8.6	8.3	8.2	5.9	13.7	7.2	12.7	20.7	7.1	1.4		<0.1	1.3	1.3	8.7	9.6	12.70	13.70
Oxygen	% vol	13.0	15.1	12.8	12.7	11.9	12.2	16	7.9	13.9	7.9	20.1	16.2	19.1		18.9	19.3	10.5	10.7	13	8.60	6.60
Atmospheric Pressure	mbar	1006	1013	1004	1007	1010	993	1005	1031	1017	1010	1010	1019	1019		1008	993	1007	1009	995	1019	1010
Gas Pressure	mbar	0.0		2.8	2.8	2.8	2.8	2.6	1.1	<0.1	0.1	1.1	1.1	0.1		1.2		1.1	1.2	0.6	0.1	1.7
Gas Flow Rate	l/hr	<0.1	<0.1	2.6	2.6	2.6	2.6	2	<0.1	1.6	0.1	2.1	2.1	0.1		0.1		0.1	<0.1	<0.1	0.1	<0.1
Insitu Liquid Determinations																						
pH	pH units																					
Electrical Conductivity	µS/cm																					
Dissolved Oxygen	mg/l																					
Temperature	ºC																					
Comment															Could not access							





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N8																								
Type Of Sample Required	None	12/04/06	04/05/06	26/06/06	18/07/06	11/08/06	06/09/06	03/10/06	09/11/06	07/12/06	11/01/07	08/02/07	13/03/07	19/04/07	10/05/07	11/06/07	23/07/07	09/08/07	06/09/07	12/10/07	15/11/07	11/12/07	15/01/08	15/02/08	14/03/08
Determinand	Units																								
Water Level																									
Water level to top of casing	m	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
Borehole depth to top of casing	m	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53
Top of casing relative to Ordnance Datum Level	m	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87
Water level relative to Ordnance Datum	m																								
Calculated purge volume	litres																								
Base of Well relative to Ordnance Datum		25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34
Gas Concentrations																									
Date monitored	-	12/04/2006	04/05/2006	26/06/2006	18/07/2006	11/08/2006	06/09/2006	03/10/2006	09/11/2006	07/12/2006	11/01/2007	08/02/2007	13/03/2007	19/04/2007	10/05/2007	11/06/2007	23/07/2007	09/08/2007	06/09/2007	12/10/2007	15/11/2007	11/12/2007	15/01/2008	15/02/2008	14/03/2008
Time of measurement	-	13:26	11:20	14:55	16:05	13:05	14:00	15:15	13:18	12:25	13:12	12:27	13:53	12:51	15:25	15:45	13:56	14:38	14:10	12:55	15:10	15:24	11:00	11:45	11:30
Methane	% vol	0.0	0.0	0.0	0.0	0	0	0.1	0.9	0	0	0	0	0	0	0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	14.2	9.5	10.0	7.9	9.1	7.2	9.7	12.4	7.9	7.7	12.2	11.6	9.9	10.5	12.2	10.8	14.0	10.9	11.4	9.8	12.0	8.3	9.7	8.8
Oxygen	% vol	5.9	12.8	11.5	13.7	13	14.2	11.6	10.2	13.1	13.9	9.9	9.4	13	13.4	9.5	10.7	7.7	11.2	12.6	12.3	9.5	13.5	11.8	12.2
Atmospheric Pressure	mbar	1000	1013	1011	1014	1007	1001	994	1025	963	972	990	1014	1012	996	1009	1000	1016	1025	1008	1015	1023	979	1008	1002
Gas Pressure	mbar	1.1	0.8	-0.3	1.4	0.9	4.7	<0.1	0.3	0.8	0.6	0.4	0.6	2	0.8	1.8	0.9	0.9	0.9	<0.1	<0.1	0.2	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	ºC																								
Comment																									

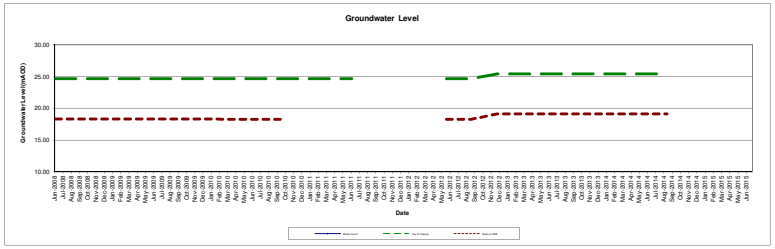
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N8**																	
Type Of Sample Required	None	15/04/08	16/05/08	17/06/08	29/07/08	26/08/08	25/09/08	30/10/08	28/11/08	18/12/08	28/01/09	26/02/09	26/03/09	23/06/09	30/10/09	02/02/10	22/03/10	
Determinand	Units																	
Water Level																		
Water level to top of casing	m	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	Dry	Dry	
Borehole depth to top of casing	m	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.51	
Top of casing relative to Ordnance Datum Level	m	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	27.87	
Water level relative to Ordnance Datum	m																	
Calculated purge volume	litres																	
Base of Well relative to Ordnance Datum		25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.34	25.36	
Gas Concentrations																		
Date monitored	-	22/04/2008	28/05/2008	17/06/2008	29/07/2008	26/08/2008	25/09/2008	30/10/08	28/11/08	18/12/08	28/01/09	26/02/09	26/03/09	23/06/09	30/10/09	02/02/10	22/03/10	
Time of measurement	-				00:00	14:08	15:03	0.00	12.02	12.49	13.52	10.26	14.48	12.09	11.37	15.05	17:15	
Methane	% vol	0	0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	<0.1	
Carbon Dioxide	% vol	13.7	13	8.9	8.5	10.8	11.7	0.00	9.50	7.10	6.60	7.50	10.90	8.60	8.10	13.20	7.2	
Oxygen	% vol	6.9	9.4	14.7	14.1	12.9	11.0	0.00	15.50	15.50	14.30	13.90	11.10	11.80	12.20	12.20	15.8	
Atmospheric Pressure	mbar	1011	1005	996	1000	999	1024	0.00	999.00	1001.00	1014.00	1013.00	984.00	1027.00	1019.00	1008.00	1000	
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	2.53	1.74	0.04	0.01	0.05	0.00	0.11	0.07	+/-0.01	
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	0.00	+/-0.1	
Insitu Liquid Determinations																		
pH	pH units																	
Electrical Conductivity	µS/cm																	
Dissolved Oxygen	mg/l																	
Temperature	℃																	
Comment								Equipment Failure										

Well removed as part of Phase 2 restoration works

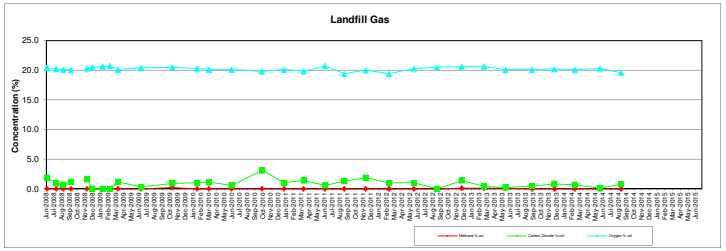
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N9																		
Type Of Sample Required	Groundwater	23/06/2004	05/08/2004	25/08/2004	27/09/2004	05/11/2004	17/11/2004	16/12/2004	26/01/2005	10/03/2005	18/04/2005	15/05/2005	01/07/2005	22/07/2005	15/08/2005	14/09/2005	29/10/2005	18/11/2005	15/12/2005
Determinand	Units																		
Water Level																			
Water level to top of casing	m	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Borehole depth to top of casing	m	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35
Top of casing relative to Ordnance Datum Level	m	24.66	24.66	24.66	24.66	24.66	24.66	24.66	24.66	24.66	24.66	24.66	24.66	24.66	24.66	24.66	24.66	24.66	24.66
Water level relative to Ordnance Datum	m																		
Calculated purge volume	litres																		
Base of Well relative to Ordnance Datum		18.31	18.31	18.31	18.31	18.31	18.31	18.31	18.31	18.31	18.31	18.31	18.31	18.31	18.31	18.31	18.31	18.31	18.31
Gas Concentrations																			
Date monitored	-	23/06/2004	05/08/2004	25/08/2004	27/09/2004	05/11/2004	17/11/2004	16/12/2004	26/01/2005	10/03/2005	18/04/2005	15/05/2005	01/07/2005	22/07/2005	15/08/2005	14/09/2005	29/10/2005	18/11/2005	15/12/2005
Time of measurement	-		12:50	11:30	10:20	11:15	15:15	15:00	12:30	14:40	08:45	2.40	6.31	12:20	03:24	10:00	13:23	11:05	12:52
Methane	% vol	<0.1	<0.1	<0.1	>0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.1	0.1	1.1	0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.2	0.3	0.2	0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	9.1	0.1	<0.1	<0.1	0.6	0.8	0.4
Oxygen	% vol	20.1	19.8	20	21.2	21.3	20.9	20.8	20.1	20.4	19.2	21.1	13.4	21.2	8.4	18.5	20.1	18.6	20.2
Atmospheric Pressure	mbar	996	1016	1004	1007	1010	993	997	1028	1017	1010	1010	1019	1019	1015	1006	1003	1025	1016
Gas Pressure	mbar	0.0		2.6	2.5	2.5	2.5	<0.1	0.8	<0.1	0.4	0.6	1.2	1.2	<0.1	0		0	0
Gas Flow Rate	l/hr	<0.1		2.6	2.6	2.6	2.6	2	2.1	1.6	1.1	1.1	0.1	1.1	0.1	<0.1		<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	ºC																		
Comment		Insufficient sample			No Tritium, Dry	Not required	Not required												



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N9																							
Type Of Sample Required	Groundwater	13/01/2006	16/02/2006	23/03/2006	18/04/2006	08/05/2006	06/06/2006	18/07/2006	10/08/2006	12/09/06	05/10/06	10/11/06	12/12/06	00/01/00	00/01/00	13/03/07	23/04/07	22/05/07	14/06/07	30/07/07	14/08/07	13/09/07	17/10/07	19/11/07	19/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry			Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Borehole depth to top of casing	m	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35			6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35
Top of casing relative to Ordnance Datum Level	m	24.66	24.66	24.66	24.66	24.66	24.66	24.66	24.66	24.66	24.66	24.66	24.66			24.66	24.66	24.66	24.66	24.66	24.66	24.66	24.66	24.66	24.66
Water level relative to Ordnance Datum	m																								
Calculated purge volume	litres																								
Base of Well relative to Ordnance Datum		18.31	18.31	18.31	18.31	18.31	18.31	18.31	18.31	18.31	18.31	18.31	18.31			18.31	18.31	18.31	18.31	18.31	18.31	18.31	18.31	18.31	18.31
Gas Concentrations																									
Date monitored	-	13/01/2006	16/02/2006	23/03/2006	18/04/2006	08/05/2006	06/06/2006	18/07/2006	10/08/2006	12/09/2006	05/10/2006	10/11/2006	12/12/2006			13/03/2007	23/04/2007	22/05/2007	14/06/2007	30/07/2007	14/08/2007	13/09/2007	17/10/2007	19/11/2007	19/12/2007
Time of measurement	-	12:53	15:35	14:00	13:00	12:05	15:00	12:02	12:15	14:10	10:10	12:00	09:45			15:33	10:10	10:40	12:55	14:00	13:32	11:39	13:55	15:30	11:25
Methane	% vol	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0	0	0	0.2	0			0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	<0.1	0.90	0.50	1.2	1.5	1.1	0.4	0.6	0.5	0	1.1	1.7			0	0	0.9	0.7	1.7	1.4	1.3	1.9	2.4	1.3
Oxygen	% vol	21.1	20.50	20.20	19.5	19.6	20.4	20.6	20	20	20.8	20	19.8			20.7	20.7	20.2	20.1	19.3	19.5	19.9	19.4	19.0	20.4
Atmospheric Pressure	mbar	1005	969	1003	1004	1018	1016	1017	1011	1002	1002	1010	992			1014	1003	1011	1004	1014	993	1015	1013	1012	1036
Gas Pressure	mbar	0	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.3	<0.1			<0.1	<0.1	0.7	0.3	<0.1	<0.1	<0.1	0.2	<0.1	0.4
Gas Flow Rate	l/hr	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	ºC																								
Comment														No Access Road Blocked off for Repair	No Access Road Blocked off for Repair									



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N9**																	
Type Of Sample Required	Groundwater	21/01/08	19/02/08	12/03/08	22/04/08	30/05/08	24/06/08	30/07/08	27/08/08	26/09/08	31/10/08	28/11/08	19/12/08	29/01/09	27/02/09	31/03/09	29/06/09	30/10/09
Determinand	Units																	
Water Level																		
Water level to top of casing	m	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Borehole depth to top of casing	m	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35
Top of casing relative to Ordnance Datum Level	m	24.66	24.66	24.66	24.66	24.66	24.66	24.66	24.66	24.66	24.66	24.66	24.66	24.66	24.66	24.66	24.66	24.66
Water level relative to Ordnance Datum	m																	
Calculated purge volume	litres																	
Base of Well relative to Ordnance Datum		18.31	18.31	18.31	18.31	18.31	18.31	18.31	18.31	18.31	18.31	18.31	18.31	18.31	18.31	18.31	18.31	18.31
Gas Concentrations																		
Date monitored	-	21/01/2008	19/02/2008	12/03/2008	22/04/2008	30/05/2008	24/06/2008	30/07/2008	27/08/2008	26/09/2008	31/10/08	28/11/08	19/12/08	29/01/09	27/02/09	31/03/09	29/06/09	30/10/09
Time of measurement	-	15:10	15:35	16:45				00:00	15:39	16:34		10.05	13.09	15.16	15.10	11.47	16.23	10.12
Methane	% vol	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00	0.20
Carbon Dioxide	% vol	1.1	1.7	1.2	0.8	1.5	1.9	0.9	0.7	1.2		1.60	0.00	0.00	0.00	1.20	0.30	0.90
Oxygen	% vol	20.3	20.0	19.9	20.4	19.3	20.4	20.2	20.1	20.0		20.30	20.50	20.60	20.70	20.10	20.40	20.50
Atmospheric Pressure	mbar	1002	996	983	1012	1011	1012	1002	1000	1019		1000	1010	1017	1014	1016	1015	1017
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		0.03	#REF!	0.02	0.04	0.02	-0.03	0.04
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1		<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																		
pH	pH units																	
Electrical Conductivity	µS/cm																	
Dissolved Oxygen	mg/l																	
Temperature	℃																	
Comment											Equipment Failure							

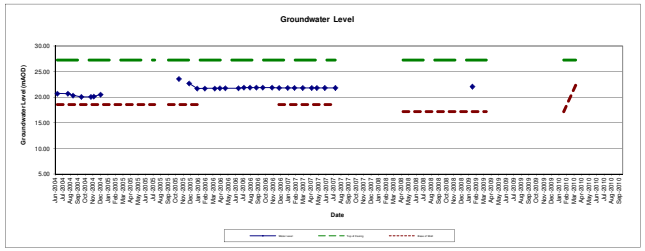
Ness Farm Landfill
Field Monitoring Sheet

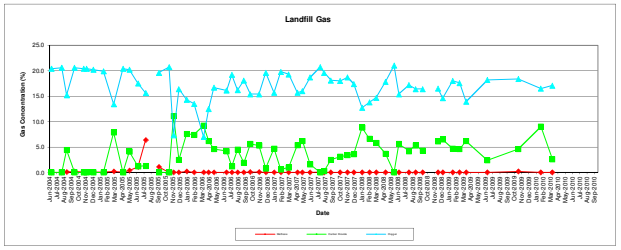
Sampling Location	**N9**				(Sept mon)	(Dec Mon)																
Type Of Sample Required	Groundwater	05/02/10	23/03/10	21/06/10	19/10/10	13/01/11	31/03/11	24/06/11	07/09/11	01/12/11	01/03/12	08/06/12	07/09/12	13/12/12	11/03/13	03/06/13	16/09/13	13/12/13	03/03/14	09/06/14	01/09/14	
Determinand	Units																					
Water Level																						
Water level to top of casing	m	Dry	Dry	Dry	Dry	Dry	Dry	Dry				Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	
Borehole depth to top of casing	m	6.35	6.38	6.38	6.42		6.40					6.42	6.40	6.30	6.31	6.30	6.32	6.31	6.32	6.31	6.3	
Top of casing relative to Ordnance Datum Level	m	24.66	24.66	24.66	24.66	24.66	24.66	24.66				24.66	24.66	25.41	25.41	25.41	25.41	25.41	25.41	25.41	25.41	
Water level relative to Ordnance Datum	m																					
Calculated purge volume	litres																					
Base of Well relative to Ordnance Datum		18.31	18.28	18.28	18.24		18.26					18.24	18.26	19.11	19.10	19.11	19.09	19.10	19.09	19.10	19.11	
Gas Concentrations																						
Date monitored	-	05/02/10	23/03/10	21/06/10	19/10/10	12/01/11	31/03/11	24/06/11	07/09/11	01/12/12	01/03/12	08/06/12	07/09/12	13/12/12	11/03/13	03/06/13	16/09/13	13/12/13	03/03/14	09/06/14	01/09/14	
Time of measurement	-	12.21	13:10	14:10	16:10	12:30	16:30	15:05	15:24	14:13	12:58	10:25	14:22	10:12	13:01	13:43	14:34	11:49	14:24	10:50	14:57	
Methane	% vol	0.00	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Carbon Dioxide	% vol	1.00	1.1	0.6	3.1	1.0	1.4	0.6	1.3	1.9	1.0	1.0	<0.1	1.4	0.4	0.2	0.5	0.8	0.7	0.1	0.8	
Oxygen	% vol	20.30	20.1	20.1	19.8	20.1	19.8	20.7	19.4	20.0	19.4	20.3	20.5	20.6	20.6	20.1	20.1	20.2	20.1	20.3	19.6	
Atmospheric Pressure	mbar	1018	1008	1018	1001	1000	983	1017	995	1000	1019	993	1015	1005	1022	1029	986	1006	985	1016	1016	
Gas Pressure	mbar	0.01	0.07	0.02	0.19	0.21	-0.01	0.04	-0.02	0.27	<0.01	-0.06	0.02	-0.22	-0.17	0.02	0.13	-0.2	-0.01	-0.28	0.1	
Gas Flow Rate	l/hr	0.00	+/-0.1	+/-0.1	0.1	+/-0.1	0.0	-0.1	<0.1	-0.1	<0.1	0.1	-0.2	<0.1	1.1	-0.2	<0.1	0.1	<0.1	<0.1	0.1	
Insitu Liquid Determinations																						
pH	pH units																					
Electrical Conductivity	µS/cm																					
Dissolved Oxygen	mg/l																					
Temperature	℃																					
Comment								Tap found open			No cover on monitoring point	Borehole dry	Vandalised. Monitoring point open. Gas tap requires replacing. Dry.				Bung missing.					

Well no longer monitored (14th Noveber 2014)

Ness Farm Landfill
Field Monitoring Sheet

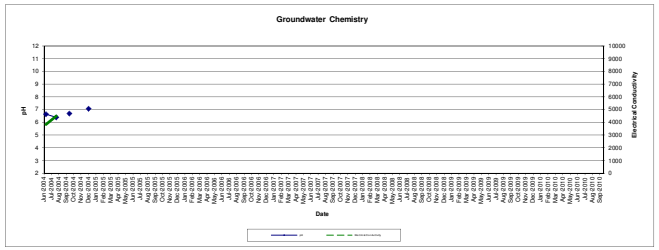
Sampling Location	**N10**																					
Type Of Sample Required	Groundwater	22/06/04	04/08/04	25/08/04	27/09/04	05/11/04	17/11/04	15/12/04	26/01/05	10/03/05	18/04/05	15/05/05	20/06/05	22/07/05	00/01/00	15/09/05	28/10/05	16/11/05	08/12/05	10/01/06	10/02/06	22/03/06
Determinand	Units																					
Water Level																						
Water level to top of casing	m	6.51	6.53	6.88	7.14	7.14	7.12	6.70	Dry	Dry	Dry	Dry	Dry	Dry		Dry	3.67	Dry	4.55	5.52	5.50	5.51
Borehole depth to top of casing	m	8.66	8.66	8.66	8.66	8.66	8.66	8.66	8.66	8.66	8.66	8.66	8.66	8.66		8.66	8.66	8.66	8.66	8.66		
Top of casing relative to Ordnance Datum Level	m	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23		27.23	27.23	27.23	27.23	27.23	27.23	27.23
Water level relative to Ordnance Datum	m	20.72	20.70	20.35	20.09	20.09	20.11	20.53									23.56		22.68	21.71	21.73	21.72
Calculated purge volume	litres	51.60																				
Base of Well relative to Ordnance Datum		18.57	18.57	18.57	18.57	18.57	18.57	18.57	18.57	18.57	18.57	18.57	18.57	18.57		18.57	18.57	18.57	18.57	18.57		
Gas Concentrations																						
Date monitored	-	22/06/2004	04/08/2004	25/08/2004	27/09/2004	05/11/2004	17/11/2004	15/12/2004	26/01/2005	10/03/2005	18/04/2005	15/05/2005	20/06/2005	22/07/2005		15/09/2005	28/10/2005	16/11/2005	08/12/2005	10/01/2006	10/02/2006	22/03/2006
Time of measurement	-		12:32	1105hrs	16:00	11:20	15:20	10:00	10:00	09:40	9.40am	3.50	9.30	15:48		18:00	16:29	12:06	11:11	13:38	13:25	12:08
Methane	% vol	<0.1	<0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.4	1.1	6.4		1.1	<0.1	<0.1	<0.1	0.2	0.00	0.00
Carbon Dioxide	% vol	<0.1	<0.1	4.4	<0.1	<0.1	<0.1	<0.1	<0.1	7.9	<0.1	4.1	1.2	1.3		<0.1	<0.1	11.1	2.5	7.6	7.40	9.20
Oxygen	% vol	20.4	20.6	15.2	20.6	20.4	20.4	20.2	19.9	13.4	20.4	20.2	17.5	15.6		19.6	20.7	7.3	16.4	14.3	13.50	7.00
Atmospheric Pressure	mbar	1007	1013	1003	1010	1010	994	1004	1031	1017	1021	1010	1010	1015		1005	993	1007	1016	995	1019	1010
Gas Pressure	mbar	0.0		2	<0.1	<0.1	0.1	2.2	1.3	<0.1	1.2	5.8	<0.1	1.1		0.1		0	0	0	<0.1	<0.1
Gas Flow Rate	l/hr	<0.1	<0.1	2.6	2.6	2.5	2.6	2.1	<0.1	1.6	0.1	1.1	<0.1	0.1		0.1		<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																						
pH	pH units	6.64	6.4		6.7			7.09														
Electrical Conductivity	µS/cm	3850	4500		2935			5320														
Dissolved Oxygen	mg/l	2.67	3.03		8.11			7.4														
Temperature	ºC	13.9	17.2		12.4			11.4														
Comment						Not required	Not required								Could not access				Full of Mud	Full of Mud	Borehole full of mud near bottom	Borehole full of mud near bottom





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N10																								
Type Of Sample Required	Groundwater	12/04/06	04/05/06	26/06/06	18/07/06	11/08/06	06/09/06	03/10/06	09/11/06	07/12/06	11/01/07	08/02/07	13/03/07	19/04/07	10/05/07	11/06/07	23/07/07	09/08/07	06/09/07	15/10/07	15/11/07	11/12/07	15/01/08	15/02/08	14/03/08
Determinand	Units																								
Water Level																									
Water level to top of casing	m	5.48	5.49	5.49	5.35	5.35	5.35	5.35	5.35	5.43	5.43	5.43	5.43	5.43	5.43	5.43	5.43								
Borehole depth to top of casing	m									8.66	8.66	8.66	8.66	8.66	8.66	8.66	8.66								
Top of casing relative to Ordnance Datum Level	m	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23								
Water level relative to Ordnance Datum	m	21.75	21.74	21.74	21.88	21.88	21.88	21.88	21.88	21.80	21.80	21.80	21.80	21.80	21.80	21.80	21.80								
Calculated purge volume	litres						0.00	N/A	N/A	N/A	N/A	N/A	0.00	N/A	N/A	N/A	N/A								
Base of Well relative to Ordnance Datum										18.57	18.57	18.57	18.57	18.57	18.57	18.57	18.57								
Gas Concentrations																									
Date monitored	-	12/04/2006	04/05/2006	26/06/2006	18/07/2006	11/08/2006	06/09/2006	03/10/2006	09/11/2006	07/12/2006	11/01/2007	08/02/2007	13/03/2007	19/04/2007	10/05/2007	11/06/2007	23/7/2007	09/08/2007	06/09/2007	15/10/2007	15/11/2007	11/12/2007	15/01/2008	15/02/2008	14/03/2008
Time of measurement	-	13:35	11:25	15:02	15:57	12:55	13:48	15:25	13:12	12:17	13:05	12:35	14:00	12:46	15:32	15:56	14:16	15:00	14:57	14:15	15:20	15:40	10:45	11:55	12:10
Methane	% vol	0.0	0.0	0.0	0.0	0	0	0.1	0.1	0	0	0	0	0	0	0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	6.2	4.6	4.2	1.2	4.5	1.9	5.6	5.3	0.8	4.7	0.6	1	5.4	6.2	1.6	0.0	0.3	2.5	3.1	3.4	3.6	8.8	6.6	5.8
Oxygen	% vol	12.5	16.7	16.1	19.2	16.2	18.1	15.4	15.4	19.6	15.7	19.8	19.3	15.7	16	18.7	20.7	19.6	18.1	18.0	18.7	17.4	12.7	13.8	14.7
Atmospheric Pressure	mbar	1000	1014	1011	1014	1007	1001	994	1025	963	972	990	1014	1013	997	1009	999	1015	1025	997	1015	1023	979	1008	1002
Gas Pressure	mbar	<0.1	<0.1	<0.1	+2.8	1.5	1.7	<0.1	1.8	1	0.8	1.2	0.9	2.1	1.7	2.9	1.5	1.5	1.5	<0.1	<0.1	<0.1	+0.9	<0.1	<0.1
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	ºC																								
Comment		Borehole full of mud near bottom	Borehole full of mud near bottom	Borehole full of mud near bottom	Borehole full of mud near bottom	Borehole full of mud near bottom	Borehole full of mud near bottom	Borehole full of mud near bottom	Borehole full of mud near bottom	Borehole full of mud near bottom	Borehole full of mud near bottom	Full of Mud from (5.43m)	Full of Mud from (5.43m)	Full of Mud from (5.43m)	Full of Mud from (5.43m)	Full of Mud from (5.43m)	Valve left open and venting. Full of Mud from (5.43m)	Full of Mud from (5.43m)	Full of Mud from (5.43m)	Full of Mud from (5.43m). Standpipe to high cover cannot close	Full of Mud from (5.43m). Standpipe to high cover cannot close	Full of Mud from (5.43m). Standpipe to high cover cannot close	Full of Mud from (5.43m). Standpipe to high cover cannot close	Full of Mud from (5.43m). Standpipe to high cover cannot close	Full of Mud from (5.43m). Standpipe to high cover cannot close



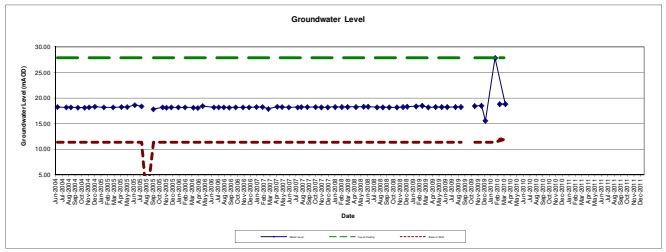
Ness Farm Landfill
Field Monitoring Sheet

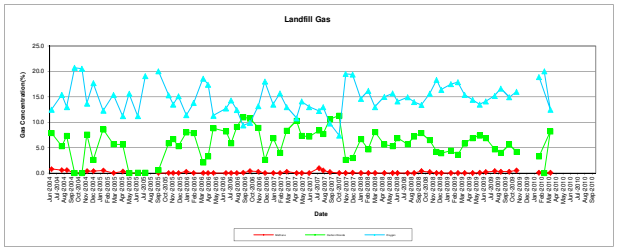
Sampling Location	**N10**																	
Type Of Sample Required	Groundwater	22/04/08	28/05/08	17/06/08	29/07/08	26/08/08	25/09/08	30/10/08	28/11/08	18/12/08	28/01/09	26/02/09	26/03/09	23/06/09	30/10/09	02/02/10	22/03/10	
Determinand	Units																	
Water Level																		
Water level to top of casing	m	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	5.13	DRY	DRY			DRY	DRY	
Borehole depth to top of casing	m	10.05	10.05	10.05	10.05	10.05	10.05	10.05	10.05	10.05	10.05	10.05	10.05			10.05	4.90	
Top of casing relative to Ordnance Datum Level	m	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23	27.23			27.23	27.23	
Water level relative to Ordnance Datum	m										22.10							
Calculated purge volume	litres																	
Base of Well relative to Ordnance Datum		17.18	17.18	17.18	17.18	17.18	17.18	17.18	17.18	17.18	17.18	17.18	17.18			17.18	22.33	
Gas Concentrations																		
Date monitored	-	22/04/2008	28/05/2008	17/06/2008	29/07/2008	26/08/2008	25/09/2008		28/11/08	18/12/08	28/01/09	26/02/09	26/03/09	23/06/09	30/10/09	02/02/10	22/03/10	
Time of measurement	-				00:00	13:54	15:31		11.51	12.31	13.39	10.13	14.36	11.59	11.49	14.59	17:25	
Methane	% vol	0	0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	<0.1	
Carbon Dioxide	% vol	3.7	0	5.6	4.2	5.3	4.3		6.10	6.50	4.70	4.60	6.20	2.40	4.60	9.00	2.6	
Oxygen	% vol	17.8	21	15.4	17.2	16.4	16.4		16.50	14.60	18.00	17.60	13.90	18.20	18.40	16.50	17.1	
Atmospheric Pressure	mbar	1011	1005	996	1000	999	1023		999	1000	1014	1013	985	1027.00	1019.00	1009.00	1000	
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1	-1	<0.1		0.07	#REF!	-0.14	-0.09	-0.02	2.33	0.03	-0.74	-0.01	
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	-0.8	<0.1		<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	+/-0.1	
Insitu Liquid Determinations																		
pH	pH units																	
Electrical Conductivity	µS/cm																	
Dissolved Oxygen	mg/l																	
Temperature	ºC																	
Comment								Equipment Failure						Full of mud	Full of mud			

Well removed as part of Phase 2 restoration works

Ness Farm Landfill
Field Monitoring Sheet

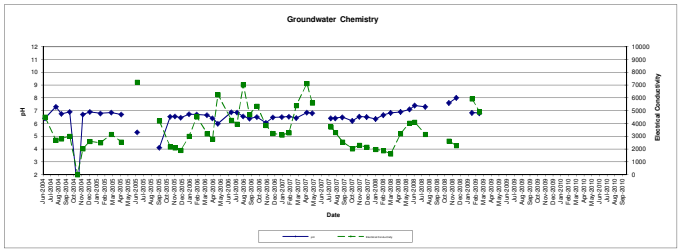
Sampling Location	N11																					
Type Of Sample Required	Leachate	22/06/04	04/08/04	25/08/04	27/09/04	28/10/04	18/11/04	15/12/04	26/01/05	10/03/05	18/04/05	15/05/05	20/06/05	22/07/05	15/08/05	15/09/05	28/10/05	16/11/05	08/12/05	10/01/06	10/02/06	22/03/06
Determinand	Units																					
Water Level																						
Water level to top of casing	m	9.60	9.64	9.66	9.70	9.71	9.68	9.55	9.68	9.66	9.60	9.60	9.20	9.48		10.00	9.68	9.71	9.67	9.66	9.64	9.69
Borehole depth to top of casing	m	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50		16.50	16.50	16.50	16.50	16.50	16.50	16.50
Top of casing relative to Ordnance Datum Level	m	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86		27.86	27.86	27.86	27.86	27.86	27.86	27.86
Water level relative to Ordnance Datum	m	18.26	18.22	18.20	18.16	18.15	18.18	18.31	18.18	18.20	18.26	18.26	18.66	18.38		17.86	18.18	18.15	18.19	18.20	18.22	18.17
Calculated purge volume	litres	165.60																				
Base of Well relative to Ordnance Datum		11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	0.00	11.36	11.36	11.36	11.36	11.36	11.36	11.36
Gas Concentrations																						
Date monitored	-	22/06/2004	04/08/2004	25/08/2004	27/09/2004	28/10/2004	18/11/2004	15/12/2004	26/01/2005	10/03/2005	18/04/2005	15/05/2005	20/06/2005	22/07/2005	15/08/2005	15/09/2005	28/10/2005	16/11/2005	08/12/2005	10/01/2006	10/02/2006	22/03/2006
Time of measurement	-		12:31	1110hrs	16:30	15:00	10:30	09:50	09:50	09:30	10.34am	4.20	10.50	16:10		18:28	16:35	12:15	11:27	11:28	13:07	12:22
Methane	% vol	0.8	0.6	0.6	0.1	0.1	0.4	0.4	0.5	<0.1	0.34	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	0.3	0.00	0.00
Carbon Dioxide	% vol	7.9	5.3	7.3	<0.1	<0.1	7.6	2.6	8.6	5.7	5.6	<0.1	0.1	0.1		0.6	5.9	6.7	5.3	8	7.90	2.10
Oxygen	% vol	12.5	15.4	13	20.7	20.5	13.7	17.7	12.3	15.4	11.2	15.6	11.2	19.1		20	15.3	13.5	15.1	11.4	13.80	18.60
Atmospheric Pressure	mbar	1007	1013	1003	1011	1008	1007	1005	1031	1018	1021	1015	1010	1015		1005	993	1007	1016	1000	1020	1010
Gas Pressure	mbar	0.0		2	<0.1	<0.1	<0.1	2.7	1.1	<0.1	1.1	1.2	1.1	1.2		0		1.1	1	4.8	0.5	0.5
Gas Flow Rate	l/hr	<0.1		2.6	2.6	2.5	3.8	2	<0.1	1.8	<0.1	1.1	1.2	0.1		<0.1		<0.1	<0.1	0.1	<0.1	<0.1
Insitu Liquid Determinations																						
pH	pH units	6.4	7.3	6.76	6.9	0.64	6.7	6.91	6.79	6.85	6.7		5.31			4.1	6.53	6.55	6.45	6.73	6.7	6.66
Electrical Conductivity	µS/cm	4500	2700	2815	3012	3.66	2032	2607	2498	3150	2567		7220			4210	2187	2107	1905	3010	4530	3220
Dissolved Oxygen	mg/l	3.03	8.11	8.1	8.2	37.3	39.2	32	29.4	35.4	25.1		16.1			2.1	0.36	3.87	406	5.54	5.73	5.04
Temperature	℃	17.2	15.2	15.6	11.9	14	13.2	13.1	10.1	13	10		10			12.1	15.5	11	15	13.7	15.1	14.7
Comment															Cannot Access		opaque brown colour	opaque brown colour			Purged liquid was clear brown colour	Purged liquid was clear brown colour





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N11																									
Type Of Sample Required	Leachate	12/04/06	04/05/06	26/06/06	18/07/06	11/08/06	06/09/06	05/10/06	09/11/06	07/12/06	11/01/07	08/02/07	08/03/07	19/04/07	11/05/07	11/06/07	23/07/07	09/08/07	06/09/07	15/10/07	12/11/07	11/12/07	15/01/08	15/02/08	14/03/08
Determinand	Units																									
Water Level																										
Water level to top of casing	m	9.75	9.40	9.67	9.67	9.64	9.70	9.65	9.67	9.64	9.62	9.62	9.95	9.55	9.62	9.65	9.63	9.62	9.62	9.61	9.68	9.63	9.57	9.60	9.56
Borehole depth to top of casing	m	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50
Top of casing relative to Ordnance Datum Level	m	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86
Water level relative to Ordnance Datum	m	18.11	18.46	18.19	18.19	18.22	18.16	18.21	18.19	18.22	18.24	18.24	17.91	18.31	18.24	18.21	18.23	18.24	18.24	18.25	18.18	18.23	18.29	18.26	18.30
Calculated purge volume	litres			38.00	52.00	52.00	50.00	50.00	50.00	50.00	55.04	51.00	48.00	50.00	52.00		50.00	50.00	56.00	56.00	48.00	48.00	50.00	55	56
Base of Well relative to Ordnance Datum		11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36
Gas Concentrations																										
Date monitored	-	12/04/2006	04/05/2006	26/06/2006	18/07/2006	11/08/2006	06/09/2006	05/10/2006	09/11/2006	07/12/2006	11/01/2007	08/02/2007	08/03/2007	19/04/2007	11/05/2007	11/06/2007	23/7/2007	09/08/2007	06/09/2007	15/10/2007	12/11/2007	11/12/2007	15/01/2008	15/02/2008	14/03/2008
Time of measurement	-	13:39	11:30	15:10	15:50	12:45	13:35	13:00	13:05	12:10	13:00	12:40	15:30	12:40	11:20	16:04	14:09	14:53	14:47	13:10	12:20	15:35	10:30	12:05	12:20
Methane	% vol	0.0	0.0	0.0	0.0	0	0.1	0.4	0.3	0	0	0	0.3	0	0	0	1.0	0.5	0.2	0.0	0.0	0.1	0.0	0.0	0.0
Carbon Dioxide	% vol	3.3	8.8	8.2	5.9	9.1	11	10.7	8.9	2.6	6.9	4	8.3	10.3	7.3	7.2	8.4	7.7	10.6	11.3	2.6	3.0	6.7	4.7	8.1
Oxygen	% vol	17.4	11.3	12.7	14.3	12.4	9.4	9.9	13.2	18	13.5	15.7	13	10.8	14.1	13	12.2	13.0	9.8	7.4	19.5	19.4	14.6	16.2	13.0
Atmospheric Pressure	mbar	1000	1013	1011	1015	1007	1001	1001	1024	963	973	990	1006	1013	998	1009	999	1015	1025	997	1020	1023	979	1008	1002
Gas Pressure	mbar	0.5	0.3	0.3	2.4	3.2	2.7	3.6	2.6	0.6	0.3	0.1	1.5	1.7	2.2	2.8	3.2	3.2	3.2	<0.1	+2.3	<0.1	2.8	0.9	1
Gas Flow Rate	l/hr	<0.1	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	<0.1	<0.1	<0.1	0.2	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations											14:15															
pH	pH units	6.42	5.98	6.88	6.86	6.55	6.39	6.51	6.05	6.48	6.5	6.54	6.43	6.85	6.8		6.41	6.42	6.49	6.21	6.54	6.5	6.35	6.67	6.83
Electrical Conductivity	µS/cm	2780	6270	4270	3960	7020	4720	5367	3860	3230	3100	3280	5410	7120	5610		3740	3310	2569	2042	2312	2154	1982	1875	1624
Dissolved Oxygen	mg/l	5.73	4.01	4.22	22.6	10.62	4.64	4.95	0	1.18	1.68	1.38	1.2	1.41	1.82		1.43	1.36	5.83	6.02	3.64	4.26	4.48	4.62	4.88
Temperature	℃	15.9	14.6	16.1	16.1	14.8	15.4	14.9	13.8	14.4	14.9	16.2	15.1	15.1	15.1		15.4	15.4	15.8	15.3	15.5	15	17.3	16.8	16.9
Comment		Purged liquid was clear brown colour	Purged liquid was clear brown colour	Purged liquid was clear brown colour	Purged liquid was clear brown colour		Purged liquid was clear brown colour	Purged liquid was clear brown colour	Purged liquid was clear brown colour							Access blocked - Couldn't get equipment to borehole to sample										



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N11**																								
Type Of Sample Required	Leachate	22/04/08	28/05/08	17/06/08	29/07/08	26/08/08	25/09/08	30/10/08	28/11/08	18/12/08	28/01/09	26/02/09	26/03/09	29/04/09	28/05/09	23/06/09	31/07/09	26/08/09	30/09/09	30/10/09	30/11/09	18/12/09	02/02/10	22/03/10	24/02/10
Determinand	Units																								
Water Level																									
Water level to top of casing	m	9.57	9.53	9.54	9.63	9.63	9.64	9.64	9.62	9.54	9.45	9.34	9.64	9.61	9.58	9.58	9.58	9.57		9.41	9.32	9.28		9.04	9.01
Borehole depth to top of casing	m	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50		16.50	16.50	16.50	16.50	15.83	15.83
Top of casing relative to Ordnance Datum Level	m	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86	27.86		27.86	27.86	27.86	27.86	27.86	27.86
Water level relative to Ordnance Datum	m	18.29	18.33	18.32	18.23	18.23	18.22	18.22	18.24	18.32	18.41	18.52	18.22	18.25	18.28	18.28	18.28	18.29		18.45	18.54	15.58	27.86	18.82	18.85
Calculated purge volume	litres	55	56	56	55	55	55	54.88	55.04	55.68	56.40	57.28	54.88	55.12	55.36	55.36	55.36	55.44		56.72			132.00	132.00	132.00
Base of Well relative to Ordnance Datum		11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36		11.36	11.36	11.36	11.36	12.03	12.03
Gas Concentrations																									
Date monitored	-	22/04/2008	28/05/2008	17/06/2008	29/07/2008	26/08/2008	25/09/2008	30/10/08	28/11/08	18/12/08	28/01/09	26/02/09	26/03/09	29/04/09	28/05/09	23/06/09	31/07/09	26/08/09	30/09/09	30/10/09			02/02/10	23/02/10	22/03/10
Time of measurement	-				00:00	13:46	15:38	12.41	11.44	12.15	13.29	10.03	14.27	15.31	14.34	11.51		12.48	13.41	11.56			14.54	14:05	17:30
Methane	% vol	0	0	0.0	0.0	0.0	0.4	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.20	0.40	0.30	0.30	0.50			0.10	0.1	<0.1
Carbon Dioxide	% vol	5.6	5.3	6.9	5.7	7.2	7.9	6.50	4.20	3.90	4.40	3.60	5.80	6.90	7.40	6.90	4.70	4.00	5.60	4.20			3.30	8.2	<0.1
Oxygen	% vol	15	15.7	14.1	14.9	14.0	13.4	15.60	18.30	16.40	17.50	17.90	15.40	14.40	13.50	14.10	15.20	16.60	14.90	16.00			18.90	12.5	20.0
Atmospheric Pressure	mbar	1011	1005	996	1000	1000	1023	1003.00	999.00	1000.00	1014.00	1013.00	985.00	1007.00	1021.00	1027.00	1012.00	997.00	1014.00	1019.00			1009.00	995	1000
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.20	1.63	0.04	0.01	0.15	-0.02	-0.02	0.03	0.03	0.03	0.02	0.00			0.00	0.01	+/-0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			0.00	0	+/-0.1
Insitu Liquid Determinations																									
pH	pH units	6.9	7.1	7.4	7.3			7.6	8		6.84	6.82													
Electrical Conductivity	µS/cm	3213	4040	4100	3160			2637	2280		5929	4915													
Dissolved Oxygen	mg/l							0.45			0	0.74													
Temperature	℃	11	13	13	13			13.89	11		13.54	14.26													
Comment																					Gas analysis lost				

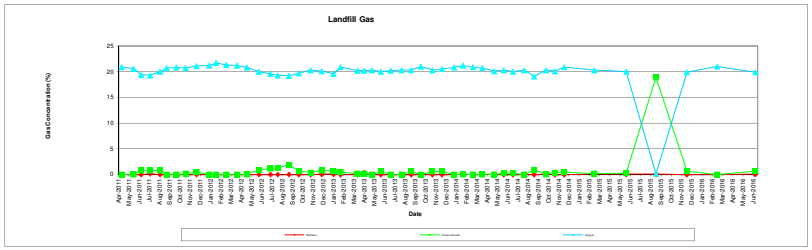
Ness Farm Landfill
Field Monitoring Sheet

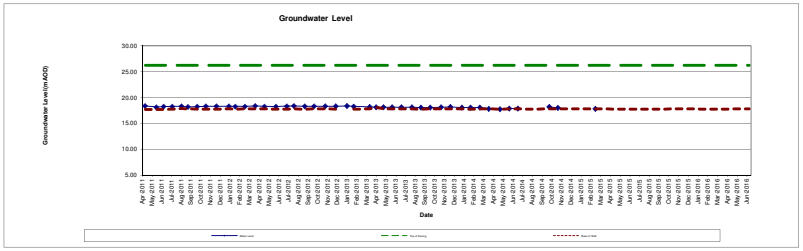
Sampling Location	**N11**		Well removed as part of Phase 2 restoration works
Type Of Sample Required	Leachate	27/04/10	
Determinand	Units		
Water Level			
Water level to top of casing	m		
Borehole depth to top of casing	m		
Top of casing relative to Ordnance Datum Level	m		
Water level relative to Ordnance Datum	m		
Calculated purge volume	litres		
Base of Well relative to Ordnance Datum			
Gas Concentrations			
Date monitored	-		
Time of measurement	-		
Methane	% vol		
Carbon Dioxide	% vol		
Oxygen	% vol		
Atmospheric Pressure	mbar		
Gas Pressure	mbar		
Gas Flow Rate	l/hr		
Insitu Liquid Determinations			
pH	pH units		
Electrical Conductivity	µS/cm		
Dissolved Oxygen	mg/l		
Temperature	℃		
Comment		location destroyed	

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N11A																									
Type Of Sample Required	Leachate	26/04/11	31/05/11	23/06/11	20/07/11	18/08/11	07/09/11	06/10/11	02/11/11	05/12/11	12/01/12	01/02/12	02/03/12	03/04/12	02/05/12	07/06/12	11/07/12	02/08/12	05/09/12	04/10/12	08/11/12	11/12/12	15/01/13	05/02/13	27/03/13
Determinand	Units																									
Water Level																										
Water level to top of casing	m	7.84	8.05	7.95	7.92	7.90	8.00	7.96	7.90	7.89	7.90	7.92	7.93	7.81	7.93	7.96	7.86	7.85	7.88	7.88	7.91	7.91	7.85	7.93	8.00
Borehole depth to top of casing	m	8.50	8.50	8.50	8.43	8.35	8.42	8.43	8.43	8.43	8.41	8.44	8.40	8.40	8.40	8.43	8.43	8.41	8.44	8.41	8.42	8.43	8.42	8.43	8.41
Top of casing relative to Ordnance Datum Level	m	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23
Water level relative to Ordnance Datum	m	18.39	18.18	18.28	18.31	18.33	18.23	18.27	18.33	18.34	18.33	18.31	18.30	18.42	18.30	18.27	18.37	18.38	18.35	18.35	18.32	18.32	18.38	18.30	18.23
Calculated purge volume	litres																								
Base of Well relative to Ordnance Datum		17.73	17.73	17.73	17.80	17.88	17.81	17.80	17.80	17.80	17.82	17.79	17.83	17.83	17.83	17.80	17.80	17.82	17.79	17.82	17.81	17.80		17.80	17.82
Gas Concentrations																										
Date monitored	-	26/04/2011	31/05/2011	23/06/2011	20/07/11	18/08/11	07/09/11	06/10/11	02/11/11	05/12/12	12/01/2012	01/02/2012	02/03/12	03/04/12	02/05/12	07/06/12	11/07/12	02/08/12	05/09/12	04/10/12	08/11/12	11/12/12	15/01/13	05/02/13	27/03/13
Time of measurement	-	12:51	10:54	13:37	12:21	13:05	11:01	13:25	11:54	11:12	09:19	09:13	13:12	08:31	10:40	15:28	09:54	13:20	12:06	14:48	12:53	15:09	14:23	15:33	14:22
Methane	% vol	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	0.1	0.8	0.8	0.8	<0.1	<0.1	0.2	0.5	<0.1	<0.1	<0.1	<0.1	0.1	0.9	1.2	1.3	1.9	0.7	0.4	0.8	0.7	0.5	0.2
Oxygen	% vol	20.9	20.6	19.4	19.3	20.0	20.7	20.8	20.7	21.1	21.2	21.70	21.3	21.2	20.8	20.0	19.6	19.3	19.2	19.7	20.3	20.1	19.6	20.9	20.2
Atmospheric Pressure	mbar	1031	1015	1010	1008	1015	995	991	1000	995	1014	1038.00	1024	1008	1027	997	1007	1002	1023	1000	1008	1029	1014	981	1021
Gas Pressure	mbar	0	0	0.00	-0.22	<0.01	0.03	-0.01	-0.06	<0.1	<0.01	0.02	0.10	-0.02	-0.07	-0.19	0.05	-0.23	<0.01	0.14	0.25	0.07	<0.1	-0.10	0.13
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	-0.1	-0.2	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.2	0.2	<0.1
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	ºC																									
Comment		Tap found open																								

Cover Level - Flush Cover
Ground Level - 26.233





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N11A**																								
Type Of Sample Required	Leachate	16/04/13	09/05/13	05/06/13	04/07/13	06/08/13	03/09/13	02/10/13	05/11/13	04/12/13	08/01/14	04/02/14	05/03/14	02/04/14	07/05/14	05/06/14	02/07/14	05/08/14	03/09/14	08/10/14	04/11/14	02/12/14	02/03/15	04/06/15	01/09/15
Determinand	Units																								
Water Level																									
Water level to top of casing	m	8.06	8.06	8.1	8.09	8.1	8.15	8.15	8.06	8.02	8.12	8.16	8.13	8.35	8.44	8.34	8.33	8.33	Dry	8.03	8.18	Dry	8.35	Dry	Dry
Borehole depth to top of casing	m	8.13	8.42	8.42	8.4	8.4	8.43	8.39	8.42	8.39	8.4	8.43	8.42	8.42	8.44	8.42	8.41	8.43	8.43	8.4	8.4	8.42	8.4	8.44	8.43
Top of casing relative to Ordnance Datum Level	m	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23	26.23
Water level relative to Ordnance Datum	m	18.17	18.17	18.13	18.14	18.13	18.08	18.08	18.17	18.21	18.11	18.07	18.10	17.88	17.79	17.89	17.90			18.20	18.05		17.88		
Calculated purge volume	litres																								
Base of Well relative to Ordnance Datum		18.10	17.81	17.81	17.83	17.83	17.80	17.84	17.81	17.84	17.83	17.80	17.81	17.81	17.79	17.81	17.82	17.80	17.80	17.83	17.83	17.81	17.83	17.79	17.80
Gas Concentrations																									
Date monitored	-	16/04/13	09/05/13	05/06/13	04/07/13	06/08/13	03/09/13	02/10/13	05/11/13	04/12/13	08/01/14	04/02/14	05/03/14	02/04/14	07/05/14	05/06/14	02/07/14	05/08/14	03/09/14	08/10/14	04/11/14	02/12/14	02/03/15	04/06/15	01/09/15
Time of measurement	-	12:08	14:14	12:43	14:59	14:08	15:50	11:58	12:04	15:01	12:00	10:56	14:31	12:03	14:10	12:09	11:48	13:11	14:26	14:25	12:33	10:16	14:40	11:43	15:03
Methane	% vol	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	0.1	0.1
Carbon Dioxide	% vol	0.2	<0.1	0.7	<0.1	<0.1	0.7	<0.1	0.6	0.7	<0.1	0.1	<0.1	0.1	<0.1	0.3	0.3	<0.1	0.9	0.1	0.4	0.5	0.2	0.3	18.9
Oxygen	% vol	20.2	20.3	20	20.2	20.3	20.3	21	20.3	20.5	20.8	21.2	20.9	20.7	20.1	20.3	20	20.3	19.1	20.3	20.1	20.9	20.3	20	0.2
Atmospheric Pressure	mbar	992	999	1022	1008	1009	1019	1011	984	1017	1001	990	1011	1008	993	1004	1012	1014	1021	986	993	1019	995	1023	1015
Gas Pressure	mbar	-0.06	-0.02	0.44	0.1	-0.26	0.09	0.03	0.22	0.14	-0.12	-0.08	-0.02	0.19	-0.3	-0.2	0.21	-0.19	-0.24	-0.09	0.06	0.03	0.28	-0.03	0.02
Gas Flow Rate	l/hr	-0.2	<0.1	0.2	0.1	<0.1	0.3	<0.1	0.1	0.1	-0.1	-0.1	-0.1	0.2	0.2	<0.1	<0.1	<0.1	<0.1	0.1	-0.1	0.3	<0.1	<0.1	0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment										No hydrogen sulphide odour detected in this area.Slight wind.				Can't re-check depth due to restricted access.		No hydrogen sulphide odour detected in this area. Slight wind. OK.						No hydrogen sulphide odour detected in this area. Dry			

Cover Level - Flush Cover
Ground Level - 26.233

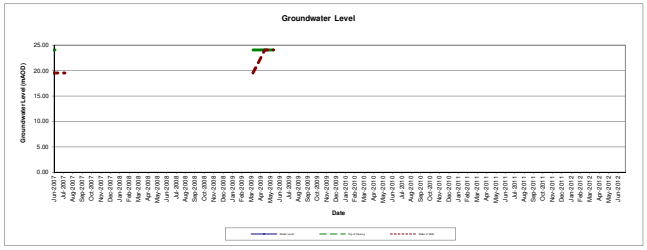
Ness Farm Landfill
Field Monitoring Sheet

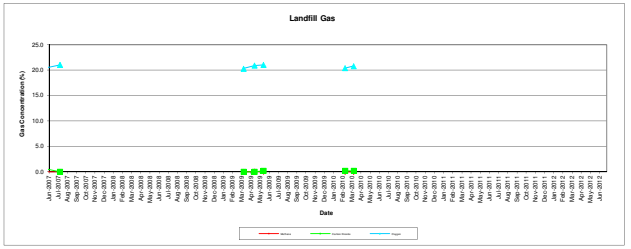
Sampling Location	**N11A**			
Type Of Sample Required	Leachate	02/12/15	01/03/16	22/06/16
Determinand	Units			
Water Level				
Water level to top of casing	m	Dry	Dry	Dry
Borehole depth to top of casing	m	8.42	8.43	8.41
Top of casing relative to Ordnance Datum Level	m	26.23	26.23	26.23
Water level relative to Ordnance Datum	m			
Calculated purge volume	litres			
Base of Well relative to Ordnance Datum		17.81	17.80	17.82
Gas Concentrations				
Date monitored	-	02/12/15	01/03/16	22/06/16
Time of measurement	-	12:01	12:40	13:43
Methane	% vol	<0.1	<0.1	0.1
Carbon Dioxide	% vol	0.7	<0.1	0.7
Oxygen	% vol	19.9	21	19.9
Atmospheric Pressure	mbar	1000	992	1012
Gas Pressure	mbar	-0.19	-0.2	<0.01
Gas Flow Rate	l/hr	0.1	-0.1	<0.1
Insitu Liquid Determinations				
pH	pH units			
Electrical Conductivity	µS/cm			
Dissolved Oxygen	mg/l			
Temperature	ºC			
Comment				

Cover Level - Flush Cover
Ground Level - 26.233

Ness Farm Landfill
Field Monitoring Sheet

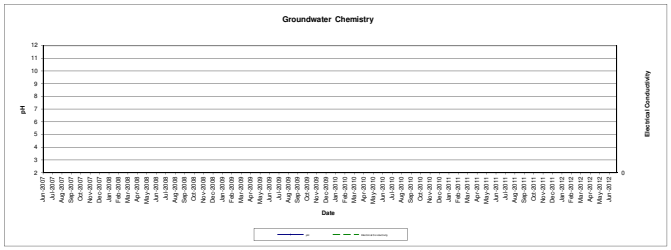
Sampling Location	**N12**																		
Type Of Sample Required	None	24/06/04	04/08/04	25/08/04	27/09/04	05/11/04	17/11/04	16/12/04	26/01/05	11/03/05	18/04/05	15/05/05	20/06/05	22/07/05	15/08/05	15/09/05	29/10/05	15/11/05	15/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Borehole depth to top of casing	m	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55
Top of casing relative to Ordnance Datum Level	m	24.07	24.07	24.07	24.07	24.07	24.07	24.07	24.07	24.07	24.07	24.07	24.07	24.07	24.07	24.07	24.07	24.07	24.07
Water level relative to Ordnance Datum	m																		
Calculated purge volume	litres																		
Base of Well relative to Ordnance Datum		19.52	19.52	19.52	19.52	19.52	19.52	19.52	19.52	19.52	19.52	19.52	19.52	19.52	19.52	19.52	19.52	19.52	19.52
Gas Concentrations																			
Date monitored	-	24/06/04	04/08/04	25/08/04	27/09/04	05/11/04	17/11/04	16/12/04	26/01/05	11/03/05	18/04/05	15/05/05	20/06/05	22/07/05	15/08/05	15/09/05	29/10/05	15/11/05	15/12/05
Time of measurement	-		12:30	1210hrs	10:30	11:25	15:25	13:00	12:40	09:00	10.00am	4.50	12.00	16:41	4.48	18:40	10:28	10:30	15:18
Methane	% vol	<0.1	<0.1	<0.1	<0.1	1	1	<0.1	<0.1	0.1	0.1	1.1	0.1	1.4	0.1	11.2	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.1	<0.1	1	1	1.2	1.1	<0.1	1	0.1	0.1	2.1	0.1	1.5	0.1	8.5	<0.1	<0.1	<0.1
Oxygen	% vol	20.6	20.4	20.3	20.2	20.3	20.4	20.6	20.6	20.4	20.4	20.4	19.6	18.6	9.2	14.6	20.4	20.7	20.7
Atmospheric Pressure	mbar	993	1014	1004	1007	1008	994	970	1031	997	1021	1014	1010	1.15	1015	1005	1005	1006	1009
Gas Pressure	mbar	0.0		2.2	2.4	2.4	2.4	<0.1	2.1	<0.1	2.1	0.1	1.1	<0.1	<0.1	0			
Gas Flow Rate	l/hr	<0.1		2.6	2.7	2.7	2.7	1.4	2	1.6	1.1	<0.1	0.1	<0.1	<0.1	<0.1			
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment																			No valve





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N12																							
Type Of Sample Required	None	10/01/06	10/02/06	22/03/06	12/04/06	08/05/06	26/06/06	14/07/06	11/08/06	06/09/06	05/10/06	09/11/06	07/12/06	11/01/07	08/02/07	08/03/07	19/04/07	10/05/07	13/06/07	23/07/07	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00
Determinand	Units																								
Water Level																									
Water level to top of casing	m	Dry	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	4.31	DRY					
Borehole depth to top of casing	m	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55	4.55					
Top of casing relative to Ordnance Datum Level	m	24.07	24.07	24.07	24.07	24.07	24.07	24.07	24.07	24.07	24.07	24.07	24.07	24.07	24.07	24.07	24.07	24.07	24.07	24.07					
Water level relative to Ordnance Datum	m																		19.76						
Calculated purge volume	litres																								
Base of Well relative to Ordnance Datum		19.52	19.52	19.52	19.52	19.52	19.52	19.52	19.52	19.52	19.52	19.52	19.52	19.52	19.52	19.52	19.52	19.52	19.52	19.52					
Gas Concentrations																									
Date monitored	-	10/01/06	10/02/06	22/03/06	12/04/06	08/05/06	26/06/06	14/07/06	11/08/06	06/09/06	05/10/06	09/11/06	07/12/06	11/01/07	08/02/07	08/03/07	19/04/07	10/05/07	13/06/07	23/07/07					
Time of measurement	-	11:22	11:59	16:15	11:27	14:35	10:00	13:05	13:55	13:20	12:53	12:55	11:55	15:03	14:12	16:30	12:30	15:50	12:10	16:05					
Methane	% vol	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	0	0	0.1	0	0	0	0	0	0	0	0.0					
Carbon Dioxide	% vol	1	0.00	0.00	0.0	0.0	0.5	0.4	0.3	0.4	0.9	0.1	0.8	0.6	0.7	0.6	0.6	0.8	0.5	0.0					
Oxygen	% vol	19.7	20.60	20.00	20.3	20.5	20.5	20.4	20.6	20.1	19.8	20.8	19.9	20.5	20.4	20.5	20.3	20.2	20.5	21.0					
Atmospheric Pressure	mbar	1000	1021	1010	1001	1018	1015	1027	1007	1002	1002	1025	964	975	992	1007	1013	999	1006	1000					
Gas Pressure	mbar		<0.1	<0.1	<0.1	<0.1	<0.1	-0.3	<0.1	0.6	1.5	1.2	0.7	1.1	0.9	0.6	2.2	1.8	1	<0.1					
Gas Flow Rate	l/hr		1.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment		No valve																			No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation



Ness Farm Landfill
Field Monitoring Sheet

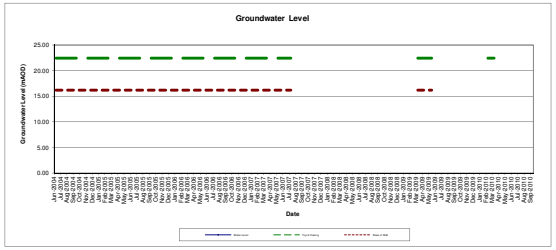
Sampling Location	**N12**																							
Type Of Sample Required	None	15/01/08	15/02/08	14/03/08	00/01/00	00/01/00	17/06/08	24/07/08	20/08/08	26/09/08	21/10/08	28/11/08	19/12/08	29/01/09	26/02/09	23/03/09	29/04/09	28/05/09	22/06/09	31/07/09	26/08/09	30/09/09	30/11/09	18/12/09
Determinand	Units																							
Water Level																								
Water level to top of casing	m															DRY	DRY	DRY						
Borehole depth to top of casing	m															4.55	4.55	0.00						
Top of casing relative to Ordnance Datum Level	m															24.07	24.07	24.07						
Water level relative to Ordnance Datum	m																							
Calculated purge volume	litres																							
Base of Well relative to Ordnance Datum																19.52	24.07	24.07						
Gas Concentrations																								
Date monitored	-															23/03/09	29/04/09	28/05/09	22/06/09					
Time of measurement	-															12.35	15.39	14.42						
Methane	% vol															0.00	0.10	0.00						
Carbon Dioxide	% vol															0.00	0.00	0.20						
Oxygen	% vol															20.30	20.90	21.00						
Atmospheric Pressure	mbar															1009.00	1007.00	1021.00						
Gas Pressure	mbar															0.21	0.00	0.00						
Gas Flow Rate	l/hr															<0.1	<0.1	<0.1						
Insitu Liquid Determinations																								
pH	pH units																							
Electrical Conductivity	µS/cm																							
Dissolved Oxygen	mg/l																							
Temperature	ºC																							
Comment		No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation				No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation

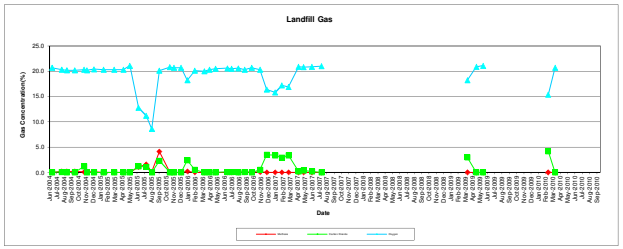
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N12									(Sept mon)					No longer monitored
Type Of Sample Required	None	01/02/10	23/02/10	24/03/10	27/04/10	05/05/10	21/06/10	15/07/10	02/08/10	19/10/10	27/10/10	15/11/10	31/03/10	23/06/11	
Determinand	Units														
Water Level															
Water level to top of casing	m		Dry	Dry											
Borehole depth to top of casing	m		4.37	4.37											
Top of casing relative to Ordnance Datum Level	m														
Water level relative to Ordnance Datum	m														
Calculated purge volume	litres														
Base of Well relative to Ordnance Datum															
Gas Concentrations															
Date monitored	-		23/02/10	24/03/10											
Time of measurement	-		14:00	10:45											
Methane	% vol		<0.1	<0.1											
Carbon Dioxide	% vol		0.2	0.2											
Oxygen	% vol		20.4	20.8											
Atmospheric Pressure	mbar		995	1000											
Gas Pressure	mbar		0.00	0.07											
Gas Flow Rate	l/hr		0.0	+/-0.1											
Insitu Liquid Determinations															
pH	pH units														
Electrical Conductivity	µS/cm														
Dissolved Oxygen	mg/l														
Temperature	℃														
Comment		No access due to overgrown vegitation			No access due to overgrown vegatation	No access due to overgrown vegatation	No access due to overgrown vegatation	No access due to overgrown vegatation	No access due to overgrown vegatation	Buried	Buried	Visit not undertaken due to adverse weather	Buried	Buried	

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N13																		
Type Of Sample Required	None	24/06/04	04/08/04	25/08/04	27/09/04	05/11/04	17/11/04	16/12/04	26/01/05	11/03/05	18/04/05	15/05/05	20/06/05	22/07/05	15/08/05	15/09/05	29/10/05	15/11/05	15/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Borehole depth to top of casing	m	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25
Top of casing relative to Ordnance Datum Level	m	22.47	22.47	22.47	22.47	22.47	22.47	22.47	22.47	22.47	22.47	22.47	22.47	22.47	22.47	22.47	22.47	22.47	22.47
Water level relative to Ordnance Datum	m																		
Calculated purge volume	litres																		
Base of Well relative to Ordnance Datum		16.22	16.22	16.22	16.22	16.22	16.22	16.22	16.22	16.22	16.22	16.22	16.22	16.22	16.22	16.22	16.22	16.22	16.22
Gas Concentrations																			
Date monitored	-	24/06/04	04/08/04	25/08/04	27/09/04	05/11/04	17/11/04	16/12/04	26/01/05	11/03/05	18/04/05	15/05/05	20/06/05	22/07/05	15/08/05	15/09/05	29/10/05	15/11/05	15/12/05
Time of measurement	-		12:30	1215hrs	10:40	11:35	15:30	13:10	12:50	09:10	10.50am	5.50	1.55	17:36	5.35	17:35	10:35	10:40	15:20
Methane	% vol	<0.1	0.2	0.2	0.2	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	1.1	1.6	0.1	4.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	0.1	<0.1	<0.1	1.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.2	1.1	<0.1	2.3	<0.1	<0.1	<0.1
Oxygen	% vol	20.7	20.3	20.2	20.2	20.3	20.2	20.4	20.3	20.3	20.3	21.1	12.8	11.2	8.6	20.1	20.8	20.7	20.7
Atmospheric Pressure	mbar	994	1013	1004	1007	1008	994	970	1031	997	1030	1028	1010	1016	1015	1005	1005	1006	1010
Gas Pressure	mbar	0.0		2.6	2.6	2.6	2.6	<0.1	2.3	<0.1	0.1	1.2	<0.1	1.1	<0.1	0		0	0
Gas Flow Rate	l/hr	<0.1	<0.1	2.6	2.6	2.7	2.6	1.2	<0.1	1.8	0.1	1.4	<0.1	0.1	1.1	<0.1		<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment																			





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N13**																								
Type Of Sample Required	None	10/01/06	10/02/06	22/03/06	12/04/06	08/05/06	26/06/06	14/07/06	11/08/06	06/09/06	05/10/06	09/11/06	07/12/06	11/01/07	08/02/07	08/03/07	19/04/07	10/05/07	13/06/07	23/07/07	09/08/07	06/09/07	15/10/07	12/11/07	11/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	Dry	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY					
Borehole depth to top of casing	m	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25					
Top of casing relative to Ordnance Datum Level	m	22.47	22.47	22.47	22.47	22.47	22.47	22.47	22.47	22.47	22.47	22.47	22.47	22.47	22.47	22.47	22.47	22.47	22.47	22.47					
Water level relative to Ordnance Datum	m																								
Calculated purge volume	litres																								
Base of Well relative to Ordnance Datum		16.22	16.22	16.22	16.22	16.22	16.22	16.22	16.22	16.22	16.22	16.22	16.22	16.22	16.22	16.22	16.22	16.22	16.22	16.22					
Gas Concentrations																									
Date monitored	-	10/01/06	10/02/06	22/03/06	12/04/06	08/05/06	26/06/06	14/07/06	11/08/06	06/09/06	05/10/06	09/11/06	07/12/06	11/01/07	08/02/07	08/03/07	19/04/07	10/05/07	13/06/07	23/07/07	09/08/07	06/09/07	15/10/07	12/11/07	11/12/07
Time of measurement	-	11:14	11:54	16:09	11:24	14:29	10:10	13:20	14:02	13:06	12:46	12:40	11:45	14:59	14:07	16:38	12:23	15:57	11:58	15:55					
Methane	% vol	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	0.1	0	0.1	0	0	0	0	0	0	0	0.0					
Carbon Dioxide	% vol	2.4	0.50	0.00	0.0	0.0	0.1	0.1	0	0.1	0	0.5	3.5	3.4	2.9	3.4	0.2	0.4	0.2	0.0					
Oxygen	% vol	18.2	20.10	20.00	20.3	20.5	20.6	20.5	20.6	20.3	20.7	20.3	16.4	15.8	17.2	16.9	20.9	20.8	20.9	21.0					
Atmospheric Pressure	mbar	1001	1021	1010	1001	1018	1015	1027	1007	1002	1002	1025	964	974	992	1007	1013	999	1005	1000					
Gas Pressure	mbar	0	0.2	<0.1	<0.1	<0.1	<0.1	0.6	0.6	0.4	<0.1	2.2	1.1	0.7	0.3	<0.1	1.1	1.3	1.9	0.6					
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment																					No access due to overgrown vegetation	No access due to overgrown vegetation	No access due to overgrown vegetation	No access due to overgrown vegetation	No access due to overgrown vegetation

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N13**																							
Type Of Sample Required	None	15/01/08	15/02/08	14/03/08	22/04/08	29/05/08	29/06/08	24/07/08	20/08/08	26/09/08	21/10/08	28/11/08	19/12/08	29/01/09	26/02/09	23/03/09	29/04/09	28/05/09	22/06/09	31/07/09	26/08/09	30/09/09	30/11/09	18/12/09
Determinand	Units																							
Water Level																								
Water level to top of casing	m															DRY	DRY	DRY						
Borehole depth to top of casing	m															6.25	6.25	6.25						
Top of casing relative to Ordnance Datum Level	m															22.47	22.47	22.47						
Water level relative to Ordnance Datum	m																							
Calculated purge volume	litres																							
Base of Well relative to Ordnance Datum																16.22	16.22	16.22						
Gas Concentrations																								
Date monitored	-	15/01/08	15/02/08	14/03/08	22/04/08	29/05/08	29/06/08	24/07/08	20/08/08	26/09/08	21/10/08	28/11/08	19/12/08	29/01/09	26/02/09	23/03/09	29/04/09	28/05/09	22/06/09						
Time of measurement	-															12.41	15.46	14.50						
Methane	% vol															0.00	0.00	0.00						
Carbon Dioxide	% vol															3.00	0.00	0.00						
Oxygen	% vol															18.20	20.90	21.10						
Atmospheric Pressure	mbar															1010	1007.00	1021.00						
Gas Pressure	mbar															-0.22	2.56	2.56						
Gas Flow Rate	l/hr															<0.1	<0.1	<0.1						
Insitu Liquid Determinations																								
pH	pH units																							
Electrical Conductivity	µS/cm																							
Dissolved Oxygen	mg/l																							
Temperature	ºC																							
Comment		No access due to overgrown vegetation	No access due to overgrown vegetation	No access due to overgrown vegetation	No access due to overgrown vegetation	No access due to overgrown vegetation	No access due to overgrown vegetation	No access due to overgrown vegetation	No access due to overgrown vegetation	No access due to overgrown vegetation	No access due to overgrown vegetation	No access due to overgrown vegetation	No access due to overgrown vegetation	No access due to overgrown vegetation	No access due to overgrown vegetation				No access due to overgrown vegetation	No access due to overgrown vegetation	No access due to overgrown vegetation	No access due to overgrown vegetation	No access due to overgrown vegetation	No access due to overgrown vegetation

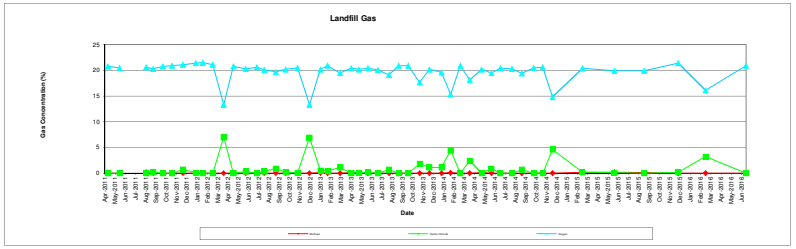
Ness Farm Landfill
Field Monitoring Sheet

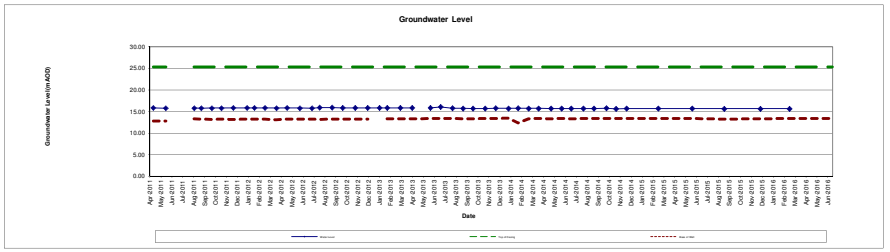
Sampling Location	**N13**								
Type Of Sample Required	None	01/02/10	23/02/10	24/03/10	27/04/10	05/05/10	21/06/10	02/08/10	**Well removed as part of Phase 2 restoration works**
Determinand	Units								
Water Level									
Water level to top of casing	m		Dry	Dry					
Borehole depth to top of casing	m		5.92	5.92					
Top of casing relative to Ordnance Datum Level	m		22.47	22.47					
Water level relative to Ordnance Datum	m								
Calculated purge volume	litres								
Base of Well relative to Ordnance Datum			16.22						
Gas Concentrations									
Date monitored	-		23/02/10	24/03/10					
Time of measurement	-		13:50	10:35					
Methane	% vol		<0.1	<0.1					
Carbon Dioxide	% vol		4.2	<0.1					
Oxygen	% vol		15.4	20.7					
Atmospheric Pressure	mbar		995	1000					
Gas Pressure	mbar		0.00	0.04					
Gas Flow Rate	l/hr		0.0	+/-0.1					
Insitu Liquid Determinations									
pH	pH units								
Electrical Conductivity	µS/cm								
Dissolved Oxygen	mg/l								
Temperature	ºC								
Comment		No access due to overgrown vegetation			No access due to overgrown vegetation	No access due to overgrown vegetation	No access due to overgrown vegetation	No access due to overgrown vegetation	

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N13A																								
Type Of Sample Required	None	26/04/11	31/05/11	23/06/11	20/07/11	18/08/11	07/09/11	06/10/11	02/11/11	05/12/11	12/01/12	01/02/12	02/03/12	03/04/12	02/05/12	07/06/12	11/07/12	01/08/12	05/09/12	04/10/12	08/11/12	13/12/12	15/01/13	05/02/13	14/03/13
Determinand	Units																								
Water Level																									
Water level to top of casing	m	9.46	9.52			9.50	9.53	9.51	9.50	9.48	9.49	9.49	9.47	9.50	9.48	9.51	9.52	9.41	9.39	9.46	9.47	9.46	9.46	9.46	9.47
Borehole depth to top of casing	m	12.50	12.50			11.96	12.07	12.12	12.05	12.11	12.08	12.08	12.10	12.18	12.07	12.08	12.09	12.12	12.07	12.10	12.10	12.05	12.03	12.02	11.98
Top of casing relative to Ordnance Datum Level	m	25.32	25.32			25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32
Water level relative to Ordnance Datum	m	15.86	15.80			15.82	15.79	15.81	15.82	15.84	15.83	15.83	15.85	15.82	15.84	15.81	15.80	15.91	15.93	15.86	15.85	15.86	15.86	15.86	15.85
Calculated purge volume	litres																								
Base of Well relative to Ordnance Datum		12.82	12.82			13.36	13.25	13.20	13.27	13.21	13.24	13.24	13.22	13.14	13.25	13.24	13.23	13.20	13.25	13.22	13.22	13.27		13.30	13.34
Gas Concentrations																									
Date monitored	-	26/04/11	31/05/11			18/08/11	07/09/11	06/10/11	02/11/11	05/12/12	12/01/2012	01/02/2012	02/03/12	03/04/12	02/05/12	07/06/12	11/07/12	01/08/12	05/09/12	04/10/12	08/11/12	13/12/12	15/01/13	05/02/13	14/03/13
Time of measurement	-	12:45	10:47			12:55	09:42	13:32	13:22	10:28	09:26	9:58	13:09	08:42	10:50	15:18	10:13	14:29	12:15	14:41	12:47	13:40	14:18	15:26	10:25
Methane	% vol	<0.1	<0.1			0.2	0.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1			<0.1	0.2	<0.1	<0.1	0.7	0.1	<0.1	<0.1	7.0	<0.1	0.3	<0.1	0.3	0.9	0.2	0.1	6.9	0.5	0.4	1.1
Oxygen	% vol	20.8	20.5			20.6	20.3	20.8	20.9	21.1	21.4	21.5	21.1	13.3	20.8	20.3	20.6	20.1	19.7	20.2	20.5	13.3	20.2	20.9	19.5
Atmospheric Pressure	mbar	1031	1015			1015	995	991	1000	995	1014	1039	1023	1008	1028	997	1007	1002	1023	1000	1009	1006	1015	983	1010
Gas Pressure	mbar	0.01	0			<0.01	0.02	-0.02	-0.23	<0.1	-0.01	0.02	-0.17	<0.01	-0.08	-0.16	<0.01	-0.11	<0.01	0.12	0.24	-0.05	-0.07	0.21	0.03
Gas Flow Rate	l/hr	<0.1	<0.1			<0.1	-0.2	<0.1	<0.1	-0.1	<0.1	-0.3	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.2	0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment				Monitoring point not located	Monitoring point not located																Lid cracked -needs replaced				

Cover Level - Flush Cover
Ground Level - 25.316





Fairhurst
Environmental Monitoring
June 2016

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N13A**																								
Type Of Sample Required	None	16/04/13	09/05/13	05/06/13	04/07/13	06/08/13	04/09/13	02/10/13	05/11/13	04/12/13	08/01/14	04/02/14	05/03/14	02/04/14	07/05/14	05/06/14	02/07/14	05/08/14	03/09/14	08/10/14	04/11/14	03/12/14	02/03/15	04/06/15	01/09/15
Determinand	Units																								
Water Level																									
Water level to top of casing	m	9.48	Dry	9.46	9.25	9.53	9.58	9.59	9.59	9.52	9.57	9.56	9.57	9.57	9.59	9.6	9.62	9.63	9.63	9.54	9.67	9.63	9.63	9.64	9.65
Borehole depth to top of casing	m	11.97	11.99	11.94	11.93	11.94	11.96	11.96	11.92	11.93	11.87	12.95	11.97	11.93	11.97	11.93	11.96	11.95	11.92	11.93	11.92	11.93	11.93	11.89	12.05
Top of casing relative to Ordnance Datum Level	m	25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32	25.32
Water level relative to Ordnance Datum	m	15.84		15.86	16.07	15.79	15.74	15.73	15.73	15.80	15.75	15.76	15.75	15.75	15.73	15.72	15.70	15.69	15.69	15.78	15.65	15.69	15.69	15.68	15.67
Calculated purge volume	litres																								
Base of Well relative to Ordnance Datum		13.35	13.33	13.38	13.39	13.38	13.36	13.36	13.40	13.39	13.45	12.37	13.35	13.39	13.35	13.39	13.36	13.37	13.40	13.39	13.40	13.39	13.39	13.43	13.27
Gas Concentrations																									
Date monitored	-	16/04/13	09/05/13	05/06/13	04/07/13	06/08/13	04/09/13	02/10/13	05/11/13	04/12/13	08/01/14	04/02/14	05/03/14	02/04/14	07/05/14	05/06/14	02/07/14	05/08/14	03/09/14	08/10/14	04/11/14	03/12/14	02/03/15	04/06/15	01/09/15
Time of measurement	-	12:14	14:09	12:52	14:53	14:01	11:16	11:52	12:10	14:54	12:07	10:50	14:36	11:58	14:16	12:04	11:43	13:17	14:20	14:30	12:26	13:42	14:32	11:21	14:55
Methane	% vol	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	0.1
Carbon Dioxide	% vol	<0.1	0.1	0.2	<0.1	0.7	<0.1	<0.1	1.8	1.1	1.1	4.4	<0.1	2.4	<0.1	0.9	<0.1	<0.1	0.7	<0.1	<0.1	4.6	0.2	0.1	<0.1
Oxygen	% vol	20.4	20.2	20.4	20.1	19.1	20.9	20.9	17.7	20.2	19.6	15.3	20.9	18.1	20.2	19.5	20.4	20.3	19.4	20.5	20.6	14.8	20.4	19.9	19.9
Atmospheric Pressure	mbar	992	1000	1022	1010	1011	1015	1011	987	1019	1001	992	1012	1008	995	1004	1014	1014	1023	989	994	1024	997	1023	1016
Gas Pressure	mbar	<0.01	-0.07	0.22	0.24	-0.25	0.01	0.11	0.21	-0.17	-0.08	-0.06	-0.02	0.09	-0.28	-0.19	0.21	-0.17	-0.22	-0.1	0.14	0.08	0.12	<0.01	-0.02
Gas Flow Rate	l/hr	0.2	<0.1	0.1	0.2	<0.1	-0.2	-0.1	0.1	0.1	<0.1	<0.1	<0.1	0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	-0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment										No hydrogen sulphide odour detected in this area.Slight wind.				Can't re-check depth due to restricted access.								No hydrogen sulphide odour detected in this area. OK.			

Cover Level - Flush Cover
Ground Level - 25.316

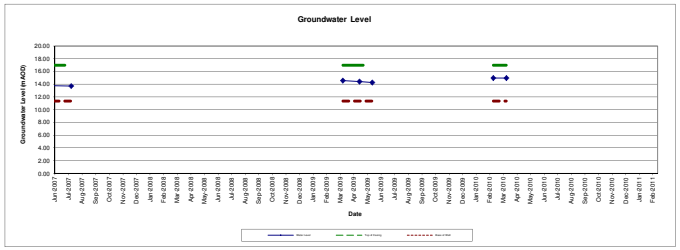
Ness Farm Landfill
Field Monitoring Sheet

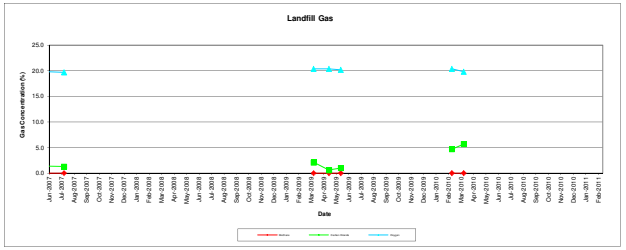
Sampling Location	N13A			
Type Of Sample Required	None	11/12/15	01/03/16	28/06/16
Determinand	Units			
Water Level				
Water level to top of casing	m	9.65	9.65	Dry
Borehole depth to top of casing	m	12	11.95	11.95
Top of casing relative to Ordnance Datum Level	m	25.32	25.32	25.32
Water level relative to Ordnance Datum	m	15.67	15.67	
Calculated purge volume	litres			
Base of Well relative to Ordnance Datum		13.32	13.37	13.37
Gas Concentrations				
Date monitored	-	11/12/15	01/03/16	28/06/16
Time of measurement	-	13:06	12:45	15:32
Methane	% vol	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.2	3.2	<0.1
Oxygen	% vol	21.4	16.1	20.9
Atmospheric Pressure	mbar	1005	992	1007
Gas Pressure	mbar	-0.02	-0.23	<0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1
Insitu Liquid Determinations				
pH	pH units			
Electrical Conductivity	µS/cm			
Dissolved Oxygen	mg/l			
Temperature	ºC			
Comment				

Cover Level - Flush Cover
Ground Level - 25.316

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N14																		
Type Of Sample Required	None	24/06/04	04/08/04	25/08/04	27/09/04	05/11/04	17/11/04	16/12/04	26/01/05	11/03/05	18/04/05	15/05/05	20/06/05	22/07/05	15/08/05	15/09/05	04/11/05	15/11/05	15/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	3.56	3.52	3.53	3.53	3.53	3.51	3.50	3.54	3.52	3.50	3.50	2.91	3.61	Dry	Dry	Dry	4.57	4.61
Borehole depth to top of casing	m	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65
Top of casing relative to Ordnance Datum Level	m	17.01	17.01	17.01	17.01	17.01	17.01	17.01	17.01	17.01	17.01	17.01	17.01	17.01	17.01	17.01	17.01	17.01	17.01
Water level relative to Ordnance Datum	m	13.45	13.49	13.48	13.48	13.48	13.50	13.51	13.47	13.49	13.51	13.51	14.10	13.40				12.44	12.40
Calculated purge volume	litres																		
Base of Well relative to Ordnance Datum		11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36
Gas Concentrations																			
Date monitored	-	24/06/2004	04/08/2004	25/08/2004	27/09/2004	05/11/2004	17/11/2004	16/12/2004	26/01/2005	11/03/2005	18/04/2005	15/05/2005	20/06/2005	22/07/2005	15/08/2005	15/09/2005	04/11/2005	15/11/2005	15/12/2005
Time of measurement	-		12:04	1220hrs	10:50	11:45	15:40	13:15	13:00	09:20	12.38am	6.25	3.00	17:59	6.21	19:21	13:39	10:54	15:22
Methane	% vol	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	0.1	1.1	1.3	3.4	0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	2.8	3	2.9	2.7	2.6	2.3	2.2	2.2	1.9	2.1	0.4	1.6	1.6	1.2	0.1	1.9	1.7	1.6
Oxygen	% vol	18.3	17.9	18.1	18.6	18.9	19.1	19.8	19.3	20.1	18.4	17.5	9.7	9.3	11.4	21.1	18.2	18.8	18.6
Atmospheric Pressure	mbar	995	1014	1004	1007	1010	994	970	1030	997	1030	1010	1010	1016	1015	1003	997	1007	1010
Gas Pressure	mbar	0.0		2.6	2.5	2.5	2.5	<0.1	2.1	<0.1	2.2	<0.1	0.1	2.1	1.1	0.3		0	0
Gas Flow Rate	l/hr	<0.1	<0.1	2.7	2.6	2.6	2.6	1.1	2.8	1.7	3.1	<0.1	<0.1	1.1	2.1	0.1		<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	ºC																		
Comment																			





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N14**																							
Type Of Sample Required	None	10/01/06	10/02/06	22/03/06	12/04/06	08/05/06	26/06/06	14/07/06	11/08/06	06/09/06	05/10/06	09/11/06	07/12/06	11/01/07	08/02/07	08/03/07	19/04/07	10/05/07	13/06/07	23/07/07	00/01/00	00/01/00	00/01/00	00/01/00
Determinand	Units																							
Water Level																								
Water level to top of casing	m	2.65	3.28	2.44	2.47	2.41	3.21	3.44	3.44	4.37	4.35	3.55	2.65	3.40	3.25	3.25	2.81	2.84	3.24	3.27				
Borehole depth to top of casing	m	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65				
Top of casing relative to Ordnance Datum Level	m	17.01	17.01	17.01	17.01	17.01	17.01	17.01	17.01	17.01	17.01	17.01	17.01	17.01	17.01	17.01	17.01	17.01	17.01	17.01				
Water level relative to Ordnance Datum	m	14.36	13.73	14.57	14.54	14.60	13.80	13.57	13.57	12.64	12.66	13.46	14.36	13.61	13.76	13.76	14.20	14.17	13.77	13.74				
Calculated purge volume	litres																							
Base of Well relative to Ordnance Datum		11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36	11.36				
Gas Concentrations																								
Date monitored	-	10/01/2006	10/02/2006	22/03/2006	12/04/2006	08/05/2006	26/06/2006	14/07/2006	11/08/2006	06/09/2006	05/10/2006	09/11/2006	07/12/2006	11/01/2007	08/02/2007	08/03/2007	19/04/2007	10/05/2007	13/06/2007	23/07/2007				
Time of measurement	-	11:06	11:46	16:02	11:20	14:22	10:15	13:35	14:08	12:55	12:40	12:30	11:35	14:53	14:00	16:44	12:13	16:05	11:47	15:45				
Methane	% vol	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0	0.1	0	0.1	0	0	0	0	0	0	0	0.0				
Carbon Dioxide	% vol	0.4	0.80	0.00	0.0	0.0	2.3	2.4	2.5	2	2.5	1.4	1.4	2.1	1.5	1.7	1.3	1.1	1.4	1.3				
Oxygen	% vol	20.6	20.10	20.00	20.3	20.5	18.9	18.6	18.8	18.6	18.4	19.6	19.5	19.1	19.7	19.5	20	20.2	19.8	19.7				
Atmospheric Pressure	mbar	1002	1022	1010	1001	1018	1016	1027	1008	1003	1003	1026	965	975	992	1007	1014	999	1006	1000				
Gas Pressure	mbar	0	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	0.6	1.2	<0.1	0.9	0.9	0.2	0.3	1	1	0.7	0.2				
Gas Flow Rate	l/hr	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.3	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3				
Insitu Liquid Determinations																								
pH	pH units																							
Electrical Conductivity	µS/cm																							
Dissolved Oxygen	mg/l																							
Temperature	℃																							
Comment																					No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation

Ness Farm Landfill
Field Monitoring Sheet

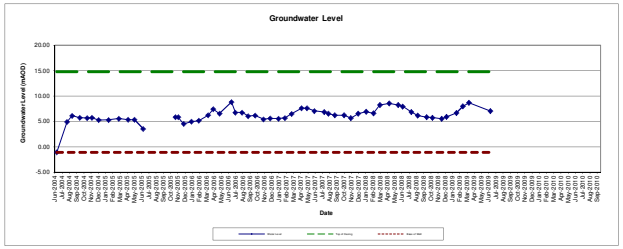
Sampling Location	**N14**																								
Type Of Sample Required	None	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	24/07/08	20/08/08	26/09/08	21/10/08	28/11/08	19/12/08	29/01/09	26/02/09	23/03/09	29/04/09	28/05/09	22/06/09	31/07/09	26/08/09	30/09/09	30/10/09	30/11/09
Determinand	Units																								
Water Level																									
Water level to top of casing	m																2.42	2.59	2.73						
Borehole depth to top of casing	m																5.65	5.65	5.65						
Top of casing relative to Ordnance Datum Level	m																*17.01*	17.01	17.01						
Water level relative to Ordnance Datum	m																14.59	14.42	14.28						
Calculated purge volume	litres																25.84	24.48	23.36						
Base of Well relative to Ordnance Datum																	11.36	11.36	11.36						
Gas Concentrations																									
Date monitored	-																23/03/09	29/04/09	28/05/09						
Time of measurement	-																12.49	15.53	14.55						
Methane	% vol																0.00	0.00	0.00						
Carbon Dioxide	% vol																2.10	0.60	1.00						
Oxygen	% vol																20.40	20.40	20.20						
Atmospheric Pressure	mbar																1010.00	1007.00	1022.00						
Gas Pressure	mbar																-0.05	0.00	0.00						
Gas Flow Rate	l/hr																-0.30	<0.1	<0.1						
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment		No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation				No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation

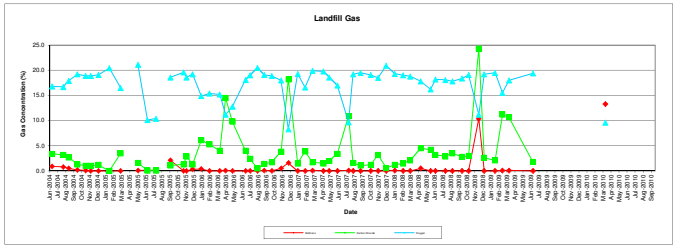
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N14**							(Sept mon)			Well no longer monitored
Type Of Sample Required	None	18/12/09	01/02/10	23/02/10	24/03/10	05/05/10	21/06/10	19/10/10	27/10/10	15/11/10	
Determinand	Units										
Water Level											
Water level to top of casing	m			2.03	2.02						
Borehole depth to top of casing	m			4.98	3.21						
Top of casing relative to Ordnance Datum Level	m			17.01	*17.01*						
Water level relative to Ordnance Datum	m			14.98	14.99						
Calculated purge volume	litres										
Base of Well relative to Ordnance Datum				11.36	11.36						
Gas Concentrations											
Date monitored	-			23/02/10	24/03/10						
Time of measurement	-			13:35	10:20						
Methane	% vol			<0.1	<0.1						
Carbon Dioxide	% vol			4.7	5.7						
Oxygen	% vol			20.4	19.8						
Atmospheric Pressure	mbar			995	1000						
Gas Pressure	mbar			0.01	+/-0.01						
Gas Flow Rate	l/hr			0.0	-0.6						
Insitu Liquid Determinations											
pH	pH units										
Electrical Conductivity	µS/cm										
Dissolved Oxygen	mg/l										
Temperature	℃										
Comment		No access due to overgrown vegitation	No access due to overgrown vegitation			No access due to overgrown vegitation	No access due to overgrown vegitation	No access due to overgrown vegitation	Buried	Visit not undertaken due to adverse weather	

Ness Farm Landfill
Field Monitoring Sheet

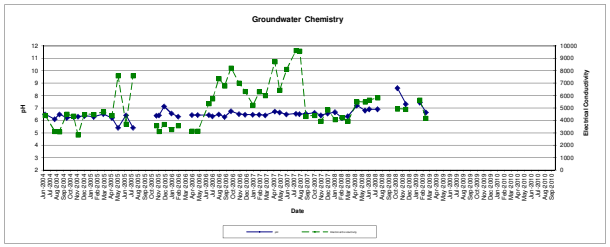
Sampling Location	N15A																		
Type Of Sample Required	Leachate	22/06/04	04/08/04	25/08/04	27/09/04	28/10/04	17/11/04	15/12/04	26/01/05	10/03/05	18/04/05	15/05/05	20/06/05	22/07/05	15/08/05	15/09/05	04/11/05	15/11/05	08/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	16.80	9.87	8.64	9.04	9.07	9.05	9.48	9.45	9.20	9.40	9.40	11.21			Dry	8.88	8.90	10.25
Borehole depth to top of casing	m	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82
Top of casing relative to Ordnance Datum Level	m	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75
Water level relative to Ordnance Datum	m	-1.07	4.88	6.11	5.71	5.68	5.70	5.27	5.30	5.55	5.35	5.35	3.54				5.87	5.85	4.50
Calculated purge volume	litres	-23.52																	
Base of Well relative to Ordnance Datum		-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07
Gas Concentrations																			
Date monitored	-	22/06/2004	04/08/2004	25/08/2004	27/09/2004	28/10/2004	17/11/2004	15/12/2004	26/01/2005	10/03/2005	18/04/2005	15/05/2005	20/06/2005	22/07/2005	15/08/2005	15/09/2005	04/11/2005	15/11/2005	08/12/2005
Time of measurement	-		12:15	1240hrs	12:00	15:10	09:20	09:30	09:40	09:20	1.00pm	7.40	4.30	18:30		14:12	13:30	11:03	11:41
Methane	% vol	0.9	0.8	0.5	0.2	0.1	<0.1	<0.1	<0.1	<0.1		0.1	0.1	0.1		2.1	<0.1	<0.1	0.3
Carbon Dioxide	% vol	3.4	3.2	2.7	1.3	1	1	1.2	<0.1	3.5		1.6	0.1	0.1		1.1	1.3	2.9	1.3
Oxygen	% vol	16.8	16.7	17.9	19.2	18.9	18.9	19.1	20.4	16.5		21.1	10.1	10.4		18.6	19.6	18.6	19.2
Atmospheric Pressure	mbar	1008	1014	1007	1014	1010	1008	1007	1031	1020	1030	1010	1010	1015		1005	997	1007	1018
Gas Pressure	mbar	0.0		5	3.1	3	3	4.3	<0.1	<0.1	<0.1	1.2	<0.1	2.3		0.1		0	0.5
Gas Flow Rate	l/hr	<0.1	<0.1	2.6	2.8	2.9	2.9	2.2	2.9	1.8	1.1	1.1	<0.1	0.1		<0.1		<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units	6.5	6.09	6.5	6.2	6.28	6.3	6.37	6.29	6.52	6.2	5.41	6.42	5.41			6.39	6.4	7.13
Electrical Conductivity	µS/cm	4420	3130	3110	4520	4350	2830	4500	4480	4690	4410	7600	3710	7600			3590	3120	3700
Dissolved Oxygen	mg/l	5.49	9.2	9.1	10.8	21.3	22.8	12.4	15.9	11.5	14.6	20.4	1.9	20.4			3.73	3.41	3.92
Temperature	℃	13.1	11	11.5	10.6	10.5	8.9	8.9	9.4	8.8	10	10	10	10			11.9	10.4	10.3
Comment			Gas cover loose												Cannot Access	Dry	opaque brown colour	opaque brown colour	opaque brown colour





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N15A																								
Type Of Sample Required	Leachate	10/01/06	10/02/06	21/03/06	12/04/06	08/05/06	27/06/06	14/07/06	11/08/06	06/09/06	05/10/06	09/11/06	07/12/06	11/01/07	08/02/07	08/03/07	19/04/07	11/05/07	11/06/07	23/07/07	09/08/07	06/09/07	15/10/07	12/11/07	13/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	9.80	9.59	8.56	7.32	8.23	5.98	8.00	8.00	8.69	8.62	9.33	9.17	9.20	9.08	8.26	7.15	7.17	7.69	7.89	8.22	8.55	8.55	9.12	9.30
Borehole depth to top of casing	m	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82
Top of casing relative to Ordnance Datum Level	m	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75
Water level relative to Ordnance Datum	m	4.95	5.16	6.19	7.43	6.52	8.77	6.75	6.75	6.06	6.13	5.42	5.58	5.55	5.67	6.49	7.60	7.58	7.06	6.86	6.53	6.20	6.20	5.63	6.52
Calculated purge volume	litres							64.00	64.00	60.00	60.00	56.00	56.00	52.96	56.00	60.00	68.00	69.00	64.00	64.00	60.00	64.00	64.00	50.00	50.00
Base of Well relative to Ordnance Datum		-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07
Gas Concentrations																									
Date monitored	-	10/01/2006	10/02/2006	21/03/2006	12/04/2006	08/05/2006	27/06/2006	14/07/2006	11/08/2006	06/09/2006	05/10/2006	09/11/2006	07/12/2006	11/01/2007	08/02/2007	08/03/2007	19/04/2007	11/05/2007	11/06/2007	23/07/2007	09/08/2007	06/09/2007	15/10/2007	12/11/2007	13/12/2007
Time of measurement	-	10:58	11:35	14:30	10:50	13:58	11:24	12:17	13:40	12:10	12:20	12:20	11:25	14:45	13:45	16:20	12:00	12:10	16:00	15:35	12:04	12:04	15:00	14:20	12:12
Methane	% vol	0.4	0.00	0.00	0.1	0.0	0.0	0.0	0	0.1	0	0.5	1.6	0	0	0.1	0	0	0	0.1	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	6.1	5.30	4.00	14.5	9.8	4.0	2.4	0.5	1.4	1.7	3.8	18.2	1.5	3.9	1.7	1.5	2	3.4	10.9	1.6	1.1	1.2	3.2	0.6
Oxygen	% vol	14.9	15.40	15.20	11.2	12.8	18.1	19.0	20.5	19.1	18.9	18	8.3	19.3	16.6	19.9	19.8	18.6	17	9.7	19.2	19.5	19.1	18.5	20.9
Atmospheric Pressure	mbar	1003	1022	1016	1001	1018	1013	1029	1009	1003	1003	1026	965	975	992	1007	1014	1000	1010	1000	1018	1027	1000	1020	1028
Gas Pressure	mbar	0.2	<0.1	+0.1	+0.1	+0.3	<0.1	+0.5	0.6	-0.6	0.4	0.3	3.8	3.2	<0.1	2.6	3	4.2	-0.4	1.9	<0.1	<0.1	<0.1	+0.7	+2.3
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units	6.57	6.3		6.43	6.43	6.43	6.34	6.48	6.28	6.75	6.52	6.47	6.45	6.45	6.42	6.72	6.63	6.49	6.55	6.51	6.54	6.62	6.42	6.56
Electrical Conductivity	µS/cm	3270	3580		3150	3150	5360	5760	7370	6780	8230	7000	6330	5240	6310	6010	8730	6440	8120	9640	9580	4340	4400	3950	4850
Dissolved Oxygen	mg/l	5.71	5.75		3.8	3.8	2.82	2.86 - 5.71	3.72	0	4.2	0.34	2.56	1.87	1.28	1.55	1.08	0.96	1.38	1.12	1.32	5.78	5.25	4.8	3.68
Temperature	℃	10.5	10.2		10.1	10.1	11.2	12.2	10.2	11.6	11.2	9.6	9.8	10.4	10.2	10.3	10.5	10.2	10.5	10.6	10.7	11.2	11	10.7	10.9
Comment		opaque brown colour	Broken nozzle on tap/ purged liquid was clear brown colour	Broken nozzle on tap/ purged liquid was clear brown colour	Broken nozzle on tap/ purged liquid was clear brown colour	Broken nozzle on tap/ purged liquid was clear brown colour	Broken nozzle on tap/ purged liquid was clear brown colour	Broken nozzle on tap/ purged liquid was clear brown colour	Broken nozzle on tap	Broken nozzle on tap/ purged liquid was clear brown colour	Broken nozzle on tap/ purged liquid was clear brown colour	Broken nozzle on tap/ purged liquid was clear brown colour													



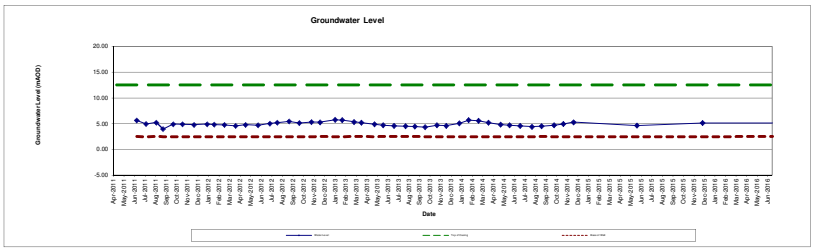
Ness Farm Landfill
Field Monitoring Sheet

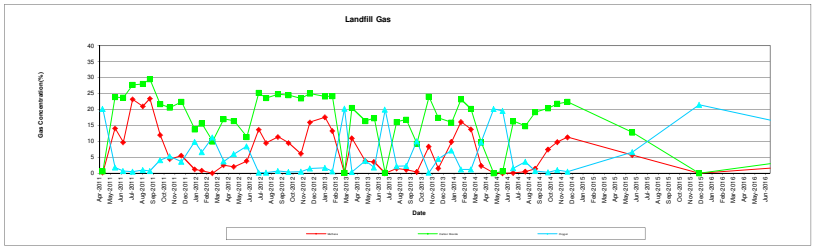
Sampling Location	**N15A**																				
Type Of Sample Required	Leachate	15/01/08	15/02/08	13/03/08	22/04/08	29/05/08	17/06/08	24/07/08	20/08/08	26/09/08	21/10/08	28/11/08	19/12/08	29/01/09	26/02/09	23/03/09	22/06/09	30/09/09	24/03/10	21/06/10	Well removed as part of Phase 2 restoration works
Determinand	Units																				
Water Level																					
Water level to top of casing	m	8.92	9.22	7.58	7.30	7.59	7.88	7.89	8.60	8.91	9.01	9.25	8.87	8.10	6.76	6.07	7.71		5.00		
Borehole depth to top of casing	m	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82		15.58		
Top of casing relative to Ordnance Datum Level	m	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75		14.75		
Water level relative to Ordnance Datum	m	6.90	6.60	8.24	8.52	8.23	7.94	6.86	6.15	5.84	5.74	5.50	5.88	6.65	7.99	8.68	7.04				
Calculated purge volume	litres	54.00	53	66	68	66	64	63	58	55	54.48	52.56	55.60	61.76	72.48	78.00	64.88				
Base of Well relative to Ordnance Datum		-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07	-1.07				
Gas Concentrations																					
Date monitored	-	15/01/2008	15/02/2008	13/03/2008	22/04/2008	29/05/2008	17/06/2008	24/07/2008	20/08/2008	26/09/2008	21/10/08	28/11/08	19/12/2008	29/01/2009	26/02/09	23/03/09	22/06/09		24/03/10		
Time of measurement	-	11:55	13:30	13:35				00:00	14:05	12:45	16.10	14.28	11:31	06:57	13.41	12.55	15.16		09:55		
Methane	% vol	0.1	0.0	0.0	0.5	0	0.0	0.0	0.0	0.0	0.00	10.40	0.0	0.0	0.10	0.10	0.00		13.3		
Carbon Dioxide	% vol	1.2	1.5	2.1	4.5	4.2	3.2	2.9	3.5	2.8	3.00	24.30	2.6	2.1	11.20	10.70	1.80		31.3		
Oxygen	% vol	19.3	19.0	18.8	17.8	16.2	18.2	18.1	17.8	18.4	19.10	11.20	19.2	19.5	15.50	18.00	19.40		9.6		
Atmospheric Pressure	mbar	980	1009	991	1013	1008	998	1010	994	1023	998.00	999.00	1006	1022	1015.00	1011.00	1024.00		1000		
Gas Pressure	mbar	+1.1	+1.8	+0.9	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.50	-0.01	-0.01	-0.01	-0.01	-0.18	Damaged		+/-0.01		
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.10	Damaged		+/-0.1		
Insitu Liquid Determinations																					
pH	pH units	6.66	6.21	6.34	7.2	6.8	6.9	6.9			8.59	7.3		7.44	6.65						
Electrical Conductivity	µS/cm	4070	4237	3936	5500	5480	5640	5830			4933	4910		5639	4182						
Dissolved Oxygen	mg/l	5.9	4.68	4.76							0			0.34	1.39						
Temperature	℃	10.4	10.7	10.9	9.0	9	8	9			9.74	7		9.29	9.48						
Comment																		Vegetation Overgrown		No access due to vegetation	

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N15B																									
Type Of Sample Required	Leachate	26/04/11	31/05/11	23/06/11	20/07/11	18/08/11	07/09/11	06/10/11	02/11/11	05/12/11	12/01/2012	01/02/2012	02/03/12	03/04/12	02/05/12	07/06/12	11/07/12	01/08/12	04/09/12	04/10/12	08/11/12	03/12/12	15/01/13	05/02/13	11/03/13
Determinand	Units																								
Water Level																									
Water level to top of casing	m	DRY	DRY	6.90	7.56	7.29	8.57	7.59	7.62	7.72	7.60	7.70	7.77	7.92	7.72	7.83	7.48	7.31	7.07	7.38	7.21	7.23	6.76	6.81	7.16
Borehole depth to top of casing	m	10.00	10.00	10.00	10.03	9.99	10.07	10.06	10.06	10.09	10.05	10.06	10.04	10.06	10.04	10.05	10.05	10.04	10.05	10.06	10.03	10.02	10.09	10.05	9.98
Top of casing relative to Ordnance Datum Level	m	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51
Water level relative to Ordnance Datum	m			5.61	4.95	5.22	3.94	4.92	4.89	4.79	4.91	4.81	4.74	4.59	4.79	4.68	5.03	5.20	5.44	5.13	5.30	5.28	5.75	5.70	5.35
Calculated purge volume	litres																								
Base of Well relative to Ordnance Datum				2.51	2.48	2.52	2.44	2.45	2.45	2.42	2.46	2.45	2.47	2.45	2.47	2.46	2.46	2.47	2.46	2.45	2.48	2.49	2.42	2.46	2.53
Gas Concentrations																									
Date monitored	-	26/04/2011	31/05/2011	23/06/2011	20/07/11	18/08/11	07/09/11	06/10/11	02/11/11	05/12/12	12/01/2012	01/02/2012	02/03/12	03/04/12	02/05/12	07/06/12	11/07/12	01/08/12	04/09/12	04/10/12	08/11/12	03/12/12	15/01/13	05/02/13	11/03/13
Time of measurement	-	12:32	10:39	12:52	12:08	12:45	09:22	13:40	12:03	10:37	09:32	09:50	12:03	08:54	11:03	15:10	10:21	14:19	09:51	14:34	12:39	11:01	14:11	15:20	14:45
Methane	% vol	0.2	14.1	9.7	23.2	21.0	23.4	12.0	4.4	5.5	1.2	0.8	<0.1	2.5	2.0	3.8	13.7	9.5	11.4	9.5	6.1	16.0	17.6	13.3	<0.1
Carbon Dioxide	% vol	0.6	23.9	23.7	27.7	28.0	29.5	21.7	20.6	22.4	13.8	15.6	10.0	17.0	16.4	11.4	25.2	23.6	24.8	24.5	23.5	25.0	24.1	24.2	0.1
Oxygen	% vol	20.2	1.8	0.7	0.5	1.0	0.7	4.1	5.3	3.6	9.9	6.6	11.3	3.7	6.0	8.5	0.2	0.2	0.7	0.4	0.5	1.5	1.7	0.6	20.3
Atmospheric Pressure	mbar	1031	1015	1012	1010	1015	997	993	1002	996	1016	1040	1026	1010	1029	999	1008	1003	1016	1002	1010	999	1015	982	1021
Gas Pressure	mbar	0.03	0	0.00	-0.23	0.06	0.05	-0.01	-0.07	<0.1	0.01	0.01	0.23	-0.10	-0.09	-0.22	<0.01	-0.08	0.03	0.13	0.28	0.38	-0.05	0.07	<0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	-0.1	<0.1	-0.1	<0.1	<0.1	-0.3	-0.4	-0.3	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.2	<0.1	0.1	0.2	0.2	0.2	<0.1
Insitu Liquid Determinations																									
pH	pH units						6.8			6.9			6.8			6.8			7.0			7.0			
Electrical Conductivity	µS/cm						5030			3900			3780			3480			3120			3160			
Dissolved Oxygen	mg/l						1.0			3.3			2.3			3.6			10.7			3.6			
Temperature	ºC						11.5			7.2			10.3			12.2			12.9			7.8			10.0
Comment		Tap found open										cover pushed in tap open to air		Cover broken - monitoring point exposed	Cover broken- monitoring point exposed	No cover present	Cover broken	Cover broken							

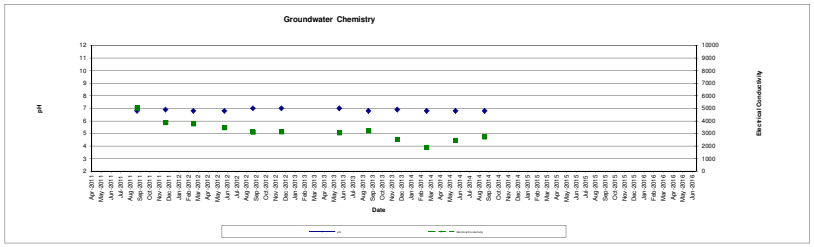
Cover Level - Flush Cover
Ground Level - 12.506





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N15B																									
Type Of Sample Required	Leachate	01/04/13	09/05/13	03/06/13	04/07/13	06/08/13	02/09/13	02/10/13	05/11/13	02/12/13	08/01/14	04/02/14	04/03/14	02/04/14	07/05/14	02/06/14	02/07/14	05/08/14	02/09/14	08/10/14	04/11/14	03/12/14	04/06/15	11/12/15	29/06/16
Determinand	Units																								
Water Level																									
Water level to top of casing	m	7.3	7.65	7.8	7.96	8	8.07	8.21	7.81	7.91	7.44	6.84	6.95	7.34	7.67	7.83	7.93	8.09	7.98	7.81	7.56	7.23	7.86	7.39	7.38
Borehole depth to top of casing	m	10.02	10.05	10.02	10.02	10.02	10.02	10.07	10.04	10.04	10.04	10.06	10.07	10.06	10.07	10.05	10.05	10.05	10.02	10.06	10.04	10.03	10.04	10.06	10.02
Top of casing relative to Ordnance Datum Level	m	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51
Water level relative to Ordnance Datum	m	5.21	4.86	4.71	4.55	4.51	4.44	4.30	4.70	4.60	5.07	5.67	5.56	5.17	4.84	4.68	4.58	4.42	4.53	4.70	4.95	5.28	4.65	5.12	5.13
Calculated purge volume	litres																								
Base of Well relative to Ordnance Datum		2.49	2.46	2.49	2.49	2.49	2.49	2.44	2.47	2.47	2.47	2.45	2.44	2.45	2.44	2.46	2.46	2.46	2.49	2.45	2.47	2.48	2.47	2.45	2.49
Gas Concentrations																									
Date monitored	-	01/04/13	09/05/13	03/06/13	04/07/13	06/08/13	02/09/13	02/10/13	05/11/13	02/12/13	08/01/14	04/02/14	04/03/14	02/04/14	07/05/14	02/06/14	02/07/14	05/08/14	02/09/14	08/10/14	04/11/14	03/12/14	04/06/15	11/12/15	29/06/16
Time of measurement	-	13:47	14:02	11:11	14:47	13:53	14:13	12:09	12:19	10:27	12:14	10:43	11:35	11:48	14:21	11:22	11:37	13:22	13:28	14:35	12:19	13:33	10:49	14:02	09:55
Methane	% vol	11	3.8	3.5	<0.1	1.5	1.1	0.4	8.4	1.5	9.9	16.1	13.8	2.3	0.1	<0.1	0.1	0.5	1.4	7.5	9.8	11.3	5.7	<0.1	1.6
Carbon Dioxide	% vol	20.5	16.4	17.3	0.1	16.1	16.8	9.3	24	17.4	15.9	23.2	20.2	9.7	<0.1	0.6	16.3	14.8	19.2	20.4	21.8	22.4	12.8	<0.1	3
Oxygen	% vol	0.4	3.9	1.8	20	2.2	2.3	10.1	0.2	4.5	7.2	1.2	1.2	9.8	20.2	19.6	1.6	3.6	0.7	0.3	1	0.5	6.6	21.5	16.6
Atmospheric Pressure	mbar	1020	1001	1031	1009	1012	1014	1013	987	1027	1001	992	994	1010	994	1015	1014	1015	1022	989	995	1025	1025	1007	1002
Gas Pressure	mbar	0.15	-0.04	0.07	0.1	-0.22	-0.16	0.1	0.23	0.36	-0.1	-0.08	-0.04	0.03	-0.2	-0.13	0.24	-0.18	-0.03	-0.1	0.1	0.08	-0.01	-0.04	0.13
Gas Flow Rate	l/hr	<0.1	<0.1	0.1	<0.1	-0.1	0.1	-0.1	0.1	-0.1	-0.3	-0.1	-0.1	0.2	0.3	-0.1	<0.1	-0.1	0.2	0.1	-0.3	<0.1	-0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units			7.0			6.8			6.9			6.8			6.8			6.8						
Electrical Conductivity	µS/cm			3070			3230			2550			1920			2470			2740						
Dissolved Oxygen	mg/l			4.2			3.0			1.7			4.1												
Temperature	℃			12.8			15.9			10.3			9.8			11.4			15.6						16
Comment																									



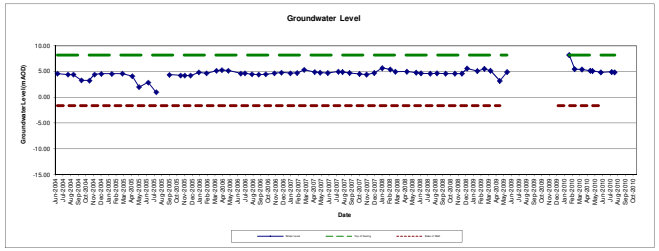
Cover Level - Flush Cover
Ground Level - 12.506

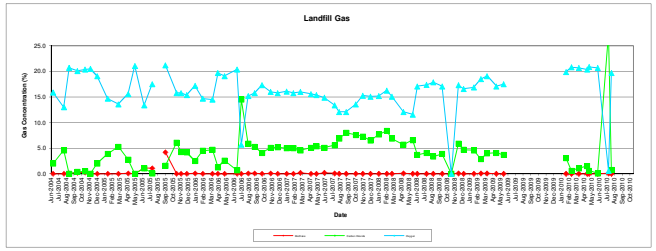
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N16						Borehole destroyed shortly after installation
Type Of Sample Required	None	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	
Determinand	Units						
Water Level							
Water level to top of casing	m						
Borehole depth to top of casing	m						
Top of casing relative to Ordnance Datum Level	m						
Water level relative to Ordnance Datum	m						
Calculated purge volume	litres						
Base of Well relative to Ordnance Datum							
Gas Concentrations							
Date monitored	-						
Time of measurement	-						
Methane	% vol						
Carbon Dioxide	% vol						
Oxygen	% vol						
Atmospheric Pressure	mbar						
Gas Pressure	mbar						
Gas Flow Rate	l/hr						
Insitu Liquid Determinations							
pH	pH units						
Electrical Conductivity	µS/cm						
Dissolved Oxygen	mg/l						
Temperature	ºC						
Comment		Could not locate	Could not locate	Has been knocked over. Stand pipe lying next to hole	Borehole has been crushed.	Has been knocked over. Stand pipe lying next to hole	

Ness Farm Landfill
Field Monitoring Sheet

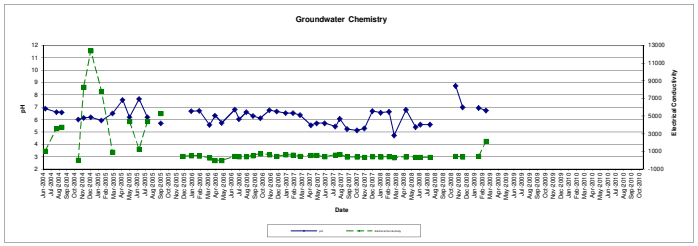
Sampling Location	N17																		
Type Of Sample Required	Leachate	22/06/04	04/08/04	25/08/04	27/09/04	28/10/04	18/11/04	15/12/04	26/01/05	10/03/05	18/04/05	15/05/05	21/06/05	23/07/05	15/08/05	14/09/05	29/10/05	15/11/05	08/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	3.62	3.80	3.80	4.93	4.94	3.75	3.63	3.63	3.60	4.10	6.21	5.31	7.21		3.82	3.94	3.97	3.98
Borehole depth to top of casing	m	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82
Top of casing relative to Ordnance Datum Level	m	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20
Water level relative to Ordnance Datum	m	4.58	4.40	4.40	3.27	3.26	4.45	4.57	4.57	4.60	4.10	1.99	2.89	0.99		4.38	4.26	4.23	4.22
Calculated purge volume	litres	148.80																	
Base of Well relative to Ordnance Datum		-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62
Gas Concentrations																			
Date monitored	-	22/06/2004	04/08/2004	25/08/2004	27/09/2004	28/10/2004	18/11/2004	15/12/2004	26/01/2005	10/03/2005	18/04/2005	15/05/2005	21/06/2005	23/07/2005	15/08/2005	14/09/2005	29/10/2005	15/11/2005	08/12/2005
Time of measurement	-		10:00	1255hrs	14:00	14:45	09:10	09:30	09:30	9;:10	2.50pm	8.20	9.45	07:36		10:20	11:00	11:10	11:51
Methane	% vol	<0.1	<0.1	0.1	0.2	0.3	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	1.1	1.1		4.2	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	2.0	4.6	<0.1	0.4	0.5	<0.1	2	3.9	5.3	2.8	<0.1	1.1	0.1		1.6	6.1	4.3	4.2
Oxygen	% vol	15.9	13	20.7	20.1	20.4	20.5	19.1	14.7	13.6	15.6	21.1	13.4	17.5		21.2	15.8	15.8	15.4
Atmospheric Pressure	mbar	1011	1014	1004	1012	1010	1010	1007	1035	1021	1028	1010	1010	1019		997	1004	1008	1019
Gas Pressure	mbar	0.0		6.3	2.2	2.2	2	4.3	1.3	1	1.2	0.4	1.3	1.1		0.2		9.9	3.1
Gas Flow Rate	l/hr	<0.1		2.6	2.7	2.8	4	2.2	<0.1	2.1	0.1	1.1	0.1	1.2		<0.1		0.1	<0.1
Insitu Liquid Determinations											5.61								
pH	pH units	6.9	6.61	6.6		6.02	6.14	6.19	5.94	6.5	7.6	6.2	7.68	6.2		5.7			
Electrical Conductivity	µS/cm	1049	3620	3750		9.47	8280	12420	7820	930		4400	1261	4400		5300			458
Dissolved Oxygen	mg/l	2.63	4.32	4.4		23.9	20	5.4	21.8	3.5	10	14.1	11.1	14.1		3.4			1.72
Temperature	℃	12.7	10.9	10.8		11.8	9.9	8.9	10.3	8.7		10	10	10		11.2			10.5
Comment															Cannot Access		obstructions in bore possible cause of depth inconsistancies		





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N17																								
Type Of Sample Required	Leachate	10/01/06	10/02/06	21/03/06	12/04/06	08/05/06	27/06/06	14/07/06	11/08/06	06/09/06	05/10/06	09/11/06	07/12/06	11/01/07	08/02/07	08/03/07	19/04/07	11/05/07	11/06/07	23/07/07	09/08/07	06/09/07	15/10/07	12/11/07	13/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	3.35	3.52	3.05	2.92	3.01	3.57	3.55	3.72	3.77	3.74	3.54	3.39	3.51	3.47	2.87	3.31	3.42	3.46	3.19	3.29	3.49	3.67	3.78	3.48
Borehole depth to top of casing	m	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82
Top of casing relative to Ordnance Datum Level	m	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20
Water level relative to Ordnance Datum	m	4.85	4.68	5.15	5.28	5.19	4.63	4.65	4.48	4.43	4.46	4.66	4.81	4.69	4.73	5.33	4.89	4.78	4.74	5.01	4.91	4.71	4.53	4.42	4.72
Calculated purge volume	litres							48.00	48.00	44.00	44.00	48.00	48.00	50.48	48.00	50.00	48.00	48.00	48.00	50.00	48.00	56.00	46.00	44.00	48.00
Base of Well relative to Ordnance Datum		-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62
Gas Concentrations																									
Date monitored	-	10/01/2006	10/02/2006	21/03/2006	12/04/2006	08/05/2006	27/06/2006	14/07/2006	11/08/2006	06/09/2006	05/10/2006	09/11/2006	07/12/2006	11/01/2007	08/02/2007	08/03/2007	19/04/2007	11/05/2007	11/06/2007	23/07/2007	09/08/2007	06/09/2007	15/10/2007	12/11/2007	13/12/2007
Time of measurement	-	10:50	10:55	14:00	10:25	13:40	10:55	11:13	11:30	11:55	12:00	12:07	11:15	15:25	14:41	14:30	11:15	12:50	14:50	11:15	11:05	11:20	11:15	15:15	12:40
Methane	% vol	0.1	0.00	0:00	0.0	0.0	0.0	0.0	0.1	0.1	0	0.1	0	0	0	0.2	0	0	0.2	0.1	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	2.5	4.50	4.70	1.3	2.6	0.7	14.5	5.9	5.3	4.1	5.1	5.2	5	5	4.6	5.1	5.4	5.1	5.6	6.9	8.0	7.6	7.3	6.5
Oxygen	% vol	17.2	14.70	14.50	19.7	19.1	20.4	5.7	15.2	15.8	17.3	16	15.8	16.1	15.8	16	15.6	15.4	14.9	13.4	12.1	12.1	13.6	15.3	15.1
Atmospheric Pressure	mbar	1004	1023	1017	1003	1019	1015	1030	1009	1005	1005	1027	967	978	994	1009	1014	1000	1010	1002	1019	1028	1001	1020	1029
Gas Pressure	mbar	4.6	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	-0.1	<0.1	0.2	0.4	<0.1	<0.1	<0.1	0.3	1	-0.2	1.7	<0.1	<0.1	<0.1	0.2	<0.1
Gas Flow Rate	l/hr	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.1	<0.1	<0.1	<0.1	-0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units	6.68	6.72	5.57	6.32	5.74	6.81	6.05	6.62	6.3	6.12	6.76	6.67	6.53	6.53	6.37	5.56	5.72	5.72	5.45	6.06	5.23	5.14	5.29	6.68
Electrical Conductivity	µS/cm	547	505	273.3	1.63	3.34	453	415	417	539	756	625	460	630	605	458	573	564	403	619	674	377	372	340	405
Dissolved Oxygen	mg/l	3.56	5.8	6.91	10.54	6.24	0	9.20 - 7.74	5.42	4.74	3.79	1.07	584	1.39	1.03	0.86	0.8	0.68	0.91	0.68	1.3	5.54	5.26	6.09	4.53
Temperature	ºC	10.3	10.8	8.7	8.6	9.5	10.7	11.3	9.8	10.9	10.5	9.8	9.6	9.9	9.4	9.3	9.4	9.1	9.5	9.9	9.9	10.6	10.7	10.2	10.4
Comment			No cover/ Purged liquid was clear brown colour	No cover/ Purged liquid was clear brown colour	No cover/ Purged liquid was clear brown colour	No cover/ Purged liquid was clear brown colour	No cover/ Purged liquid was clear brown colour	Purged liquid was clear brown colour		Purged liquid was clear brown colour	Purged liquid was clear brown colour	Purged liquid was clear brown colour													



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N17**																								
Type Of Sample Required	Leachate	15/01/08	16/02/08	07/03/08	22/04/08	29/05/08	17/06/08	24/07/08	20/08/08	24/09/08	31/10/08	28/11/08	19/12/08	29/01/09	26/02/09	23/03/09	29/04/09	28/05/09	22/06/09	31/07/09	26/08/09	30/09/09	29/10/09	30/11/09	18/12/09
Determinand	Units																								
Water Level																									
Water level to top of casing	m	2.52	2.81	3.23	3.19	3.42	3.54	3.58	3.54	3.60	3.62	3.60	2.62	3.11	2.68	3.06	5.04	3.27							
Borehole depth to top of casing	m	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82	9.82							
Top of casing relative to Ordnance Datum Level	m	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20							
Water level relative to Ordnance Datum	m	5.68	5.39	4.97	5.01	4.78	4.66	4.62	4.66	4.60	4.58	4.60	5.58	5.09	5.52	5.14	3.16	4.93							
Calculated purge volume	litres	55.00	56	53	53	51	50	50	50	50	49.60	49.76	57.60	53.68	57.12	54.08	38.24	52.40							
Base of Well relative to Ordnance Datum		-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62							
Gas Concentrations																									
Date monitored	-	15/01/2008	16/02/2008	07/03/2008	22/04/2008	29/05/2008	17/06/2008	24/07/2008	20/08/2008	24/09/2008	31/10/2008	28/11/2008	19/12/2008	29/01/2009	26/02/2009	23/03/2009	29/04/2009	28/05/2009							
Time of measurement	-	14:20	10:45	13:40				00:00	13:49	15:17	0.00	14.39	15.08	10.43	13.24	13.12	16.10	15.16							
Methane	% vol	0.0	0.0	0.0	0.1	0	0.0	0.0	0.0	0.0	0.00	0.10	0.00	0.00	0.10	0.10	0.00	0.00							
Carbon Dioxide	% vol	7.7	8.4	6.9	5.7	6.6	3.7	4.1	3.4	3.9	0.00	5.90	4.70	4.60	2.90	4.00	4.10	3.70							
Oxygen	% vol	15.2	16.3	15.1	12.1	11.6	17.1	17.4	17.9	17.1	0.00	17.30	16.60	16.90	18.50	19.10	17.10	17.50							
Atmospheric Pressure	mbar	980	992	991	1013	1008	998	1010	995	1024	0.00	1000.00	1006.00	1022.00	1016.00	1011.00	1009.00	1023.00							
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	0.87	2.62	0.07	0.01	0.06	-1.09	-1.09							
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	<0.1	1.50	-0.70	<0.1	-2.10	-0.30	-0.30							
Insitu Liquid Determinations																									
pH	pH units	6.57	6.64	4.73	6.8	5.4	5.6	5.6			8.74	7		6.94	6.74										
Electrical Conductivity	µS/cm	368	421	316	397	351	333	347			454	382		459	2146										
Dissolved Oxygen	mg/l	5.6	4.75	3.63			1.8				0.09			0.24	2.76										
Temperature	ºC	10.1	10.3	10	8	7	7	9			9.26	6		7.88	6.89								8		
Comment											Equipment Failure								Overgrown	Overgrown	Overgrown	Overgrown	Tritium - 8.7 (Bq/l)	Overgrown	Overgrown

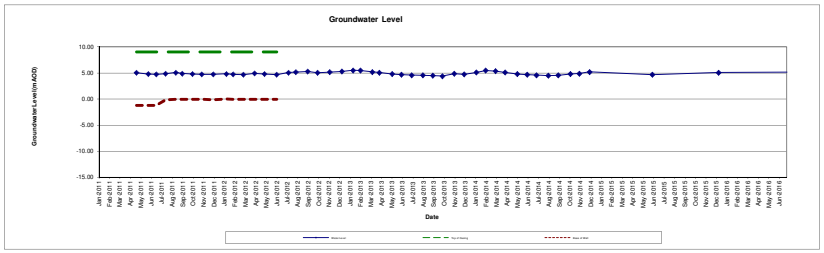
Ness Farm Landfill
Field Monitoring Sheet

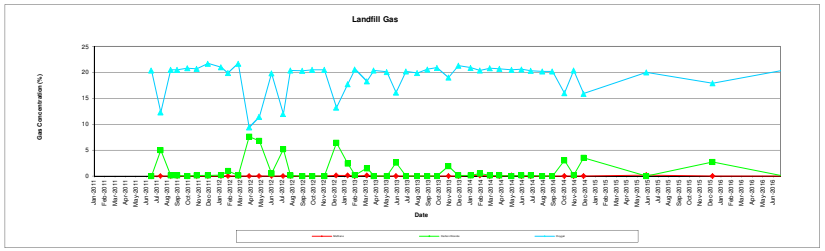
Sampling Location	**N17**									(Sept mon)			
Type Of Sample Required	Leachate	01/02/10	23/02/10	24/03/10	27/04/10	05/05/10	08/06/10	21/07/10	02/08/10	19/10/10	27/10/10	15/11/10	
Determinand	Units												
Water Level													
Water level to top of casing	m	0.00	2.74	2.81	3.03	3.07	3.34	3.26	3.34				
Borehole depth to top of casing	m	9.82	9.41	9.41	9.42	9.41	9.43	9.42	9.42				
Top of casing relative to Ordnance Datum Level	m	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20				
Water level relative to Ordnance Datum	m	8.20	5.46	5.39	5.17	5.13	4.86	4.94	4.86				
Calculated purge volume	litres												
Base of Well relative to Ordnance Datum		-1.62	-1.62	-1.62	-1.62	-1.62	-1.62	-1.62					
Gas Concentrations													
Date monitored	-	01/02/2010	23/02/2010	24/03/2010	27/04/2010	05/05/2010	08/06/2010	21/07/2010	02/08/2010				
Time of measurement	-	12.48	13:20	11:35	11:36	11:06	12:30	10:55	15:35				
Methane	% vol	0.00	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1				
Carbon Dioxide	% vol	3.10	0.6	1.1	1.5	0.6	0.1	27.4	0.8				
Oxygen	% vol	19.90	20.8	20.7	20.4	20.9	20.7	0.6	19.7				
Atmospheric Pressure	mbar	1016.00	995	1001	1018	1016	1005	996	1015				
Gas Pressure	mbar	0.02	0.02	-0.05	-0.01	0.1	+/-0.01	+/-0.01	+/-0.01				
Gas Flow Rate	l/hr	1.20	0.0	+/-0.1	-0.6	0.1	+/-0.1	+/-0.1	+/-0.1				
Insitu Liquid Determinations													
pH	pH units												
Electrical Conductivity	µS/cm												
Dissolved Oxygen	mg/l												
Temperature	℃												
Comment							Bung and tap taken. Reading taken venting	Bung & Tap taken, readings taken venting	Bung & Tap Taken. Reading Taken Venting	Buried	Buried	Visit not undertaken due to adverse weather	

Well headworks extended as part of the Phase 2 attenuation basin construction (Headworks Height 0.56m, new ground level estimated at 8.5m but to be confirmed)

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N17a																								
Type Of Sample Required	Well headworks extended as part of the Phase 2 attenuation basin construction (Headworks Height 0.56m ; new ground level estimated at 8.5m but to be confirmed)	26/04/11	30/05/11	23/06/11	20/07/11	18/08/11	06/09/11	06/10/11	02/11/11	05/12/11	12/01/12	01/02/12	02/03/12	03/04/12	02/05/12	07/06/12	11/07/12	01/08/12	05/09/12	04/10/12	08/11/12	13/12/12	15/01/13	05/02/13	12/03/13
Determinand																									
Water Level																									
Water level to top of casing		3.96	4.21	4.24	4.13	3.92	4.10	4.21	4.25	4.28	4.17	4.25	4.30	4.06	4.21	4.31	3.92	3.84	3.69	3.93	3.81	3.69	3.49	3.54	3.80
Borehole depth to top of casing		10.22	10.22	10.22	9.10	9.03	9.05	9.06	9.06	9.10	9.02	9.08	9.06	9.04	9.08	9.07	9.06	9.07	9.06	9.06	9.05	9.06	9.05	9.09	9.02
Top of casing relative to Ordnance Datum Level		9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
Water level relative to Ordnance Datum		5.04	4.79	4.76	4.87	5.08	4.90	4.79	4.75	4.72	4.83	4.75	4.70	4.94	4.79	4.69	5.08	5.16	5.31	5.07	5.19	5.31	5.51	5.46	5.20
Calculated purge volume																									
Base of Well relative to Ordnance Datum		-1.22	-1.22	-1.22	-0.10	-0.03	-0.05	-0.06	-0.06	-0.10	-0.02	-0.08	-0.06	-0.04	-0.08	-0.07	-0.06	-0.07	-0.06	-0.06	-0.05	-0.06	-0.05	-0.09	-0.02
Gas Concentrations																									
Date monitored		26/04/2011	30/05/2011	23/06/2011	20/07/11	18/08/11	06/09/11	06/10/11	02/11/11	05/12/12	12/01/2012	01/02/2012	02/03/12	03/04/12	02/05/12	07/06/12	11/07/12	01/08/12	05/09/12	04/10/12	08/11/12	13/12/12	15/01/13	05/02/13	12/03/13
Time of measurement		11:04	16:30	12:45	11:32	12:33	16:17	11:18	11:33	09:41	11:07	09:43	10:59	10:07	12:26	14:42	10:51	14:09	12:41	14:21	12:31	12:54	13:11	15:14	14:33
Methane				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1
Carbon Dioxide				<0.1	5.0	0.1	0.1	<0.1	0.1	0.1	0.2	1	0.1	7.6	6.8	0.5	5.2	0.1	<0.1	<0.1	<0.1	6.4	2.4	0.2	1.5
Oxygen				20.4	12.3	20.5	20.5	20.8	20.7	21.7	21	19.9	21.7	9.4	11.4	19.8	12.0	20.4	20.3	20.5	20.5	13.2	17.7	20.6	18.3
Atmospheric Pressure				1018	1010	1015	983	994	1003	995	1020	1041	1026	1011	1028	999	1008	1004	1025	1002	1010	1007	1016	983	1015
Gas Pressure				-0.09	-0.16	-0.04	0.01	-0.25	-0.07	<0.1	<0.01	<0.01	-0.11	-0.04	<0.01	-0.18	-0.09	-0.06	0.01	0.16	0.27	-0.04	-0.02	0.03	-0.04
Gas Flow Rate				<0.1	NR	NR	NR	<0.1	comment	<0.1	<0.1	-0.2	n/r	<0.1	<0.1	n/a	<0.1	<0.1	0.1	<0.1	0.1	<0.1	0.1	0.2	<0.1
Insitu Liquid Determinations																									
pH																									
Electrical Conductivity																									
Dissolved Oxygen																									
Temperature																									
Comment		No cap or tap on monitoring point	No cap or bung present	No cap or bung or tap present	No cap or bung or tap present	No cap or bung or tap present	No cap/bung/tap	No bung or gas tap present	No bung or gas tap present	No cap/bung/tap.	gas tap needs replacing	gas tap needs replacing	No bung or gas tap present	No bung or gas tap		No bung or gas tap present									



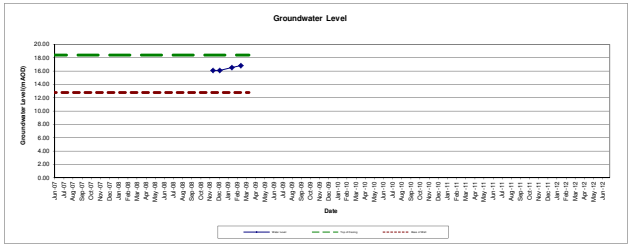


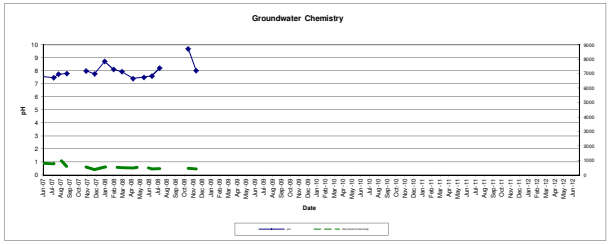
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location																								
Type Of Sample Required	01/04/13	09/05/13	05/06/13	04/07/13	06/08/13	04/09/13	02/10/13	05/11/13	04/12/13	08/01/14	04/02/14	05/03/14	02/04/14	07/05/14	05/06/14	02/07/14	05/08/14	03/09/14	08/10/14	04/11/14	03/12/14	04/06/15	14/12/15	29/06/16
Determinand																								
Water Level																								
Water level to top of casing	3.92	4.2	4.33	4.42	4.44	4.51	4.6	4.16	4.28	3.89	3.54	3.64	3.91	4.18	4.31	4.42	4.5	4.43	4.19	4.11	3.8	4.32	3.92	3.85
Borehole depth to top of casing	9.06	9.1	9.11	9.1	9.1	9.07	9.07	9.05	9.05	9.07	9.05	9.1	9.06	9.09	9.04	9.07	9.1	9.1	9.04	9.03	9.09	9.07	9.1	9.04
Top of casing relative to Ordnance Datum Level	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
Water level relative to Ordnance Datum	5.08	4.80	4.67	4.58	4.56	4.49	4.40	4.84	4.72	5.11	5.46	5.36	5.09	4.82	4.69	4.58	4.50	4.57	4.81	4.89	5.20	4.68	5.08	5.15
Calculated purge volume																								
Base of Well relative to Ordnance Datum	-0.06	-0.10	-0.11	-0.10	-0.10	-0.07	-0.07	-0.05	-0.05	-0.07	-0.05	-0.10	-0.06	-0.09	-0.04	-0.07	-0.10	-0.10	-0.04	-0.03	-0.09	-0.07	-0.10	-0.04
Gas Concentrations																								
Date monitored	01/04/13	09/05/13	05/06/13	04/07/13	06/08/13	04/09/13	02/10/13	05/11/13	04/12/13	08/01/14	04/02/14	05/03/14	02/04/14	07/05/14	05/06/14	02/07/14	05/08/14	03/09/14	08/10/14	04/11/14	03/12/14	04/06/15	14/12/15	29/06/16
Time of measurement	13:39	12:59	12:35	14:36	13:44	11:54	11:26	12:41	14:44	12:28	10:35	14:53	11:11	14:39	11:55	11:30	13:56	14:11	14:48	12:10	13:24	10:14	10:45	11:06
Methane	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	<0.1	<0.1	2.6	<0.1	<0.1	<0.1	<0.1	1.9	0.1	0.1	0.5	0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	3	0.2	3.5	<0.1	2.7	0.1
Oxygen	20.4	20.1	16.1	20.2	19.9	20.6	20.9	19	21.3	20.9	20.4	20.8	20.7	20.5	20.6	20.3	20.2	20.2	16	20.4	15.9	20	17.9	20.3
Atmospheric Pressure	1020	1000	1024	1009	1011	1016	1013	989	1019	1003	992	1013	1010	996	1006	1014	1015	1023	991	995	1026	1026	1017	1001
Gas Pressure	0.16	-0.06	0.14	0.03	-0.18	<0.01	0.09	0.19	-0.05	-0.09	-0.08	-0.05	0.02	<0.01	-0.13	0.24	-0.24	-0.21	-0.1	0.1	0.07	0.03	-0.07	<0.01
Gas Flow Rate	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	-0.2	<0.1	<0.1
Insitu Liquid Determinations																								
pH																								
Electrical Conductivity																								
Dissolved Oxygen																								
Temperature																								13.9
Comment																								

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N18**																		
Type Of Sample Required	Leachate	22/06/04	05/08/04	25/08/04	27/09/04	28/10/04	18/11/04	15/12/04	26/01/05	10/03/05	18/04/05	17/05/05	21/06/05	23/07/05	15/08/05	14/09/05	29/10/05	15/11/05	08/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m										4.21	5.61							
Borehole depth to top of casing	m	9.30	9.30								9.30	9.30							
Top of casing relative to Ordnance Datum Level	m	18.40	18.40																
Water level relative to Ordnance Datum	m																		
Calculated purge volume	litres																		
Base of Well relative to Ordnance Datum		12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80
Gas Concentrations																			
Date monitored	-	22/06/04	05/08/04	25/08/04	27/09/04	28/10/04	18/11/04	15/12/04	26/01/05	10/03/05	18/04/05	17/05/05	21/06/05	23/07/05	15/08/05	14/09/05	29/10/05	15/11/05	08/12/05
Time of measurement	-				N/A		09:20		09:30		03:45	7.35							
Methane	% vol																		
Carbon Dioxide	% vol	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Oxygen	% vol	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Atmospheric Pressure	mbar	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
Gas Pressure	mbar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Gas Flow Rate	l/hr																		
Insitu Liquid Determinations																			
pH	pH units										6.29	7.46							
Electrical Conductivity	µS/cm										4360	8290							
Dissolved Oxygen	mg/l										12.6	14.6							
Temperature	℃										10	10							
Comment		Could not access	Could not access	Could not access	Could not access. No Tritium	Could not acess	Could not acess	Could not acess	Could not Access	Conld Not Acess						Cannot Locate			





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N18**																								
Type Of Sample Required	Leachate	10/01/06	16/02/06	23/03/06	18/04/06	08/05/06	27/06/06	18/07/06	11/08/06	07/09/06	05/10/06	10/11/06	08/12/06	12/01/07	09/02/07	08/03/07	20/04/07	10/05/07	12/06/07	23/07/07	09/08/07	06/09/07	15/10/07	12/11/07	11/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m			2.05	2.05	2.05	2.05	2.10	2.44	2.44	2.44	2.15	1.98	2.03	2.03	1.54	2.01	2.00	2.02	1.98	2.02	2.13		3.04	2.00
Borehole depth to top of casing	m			5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60		5.60	5.60
Top of casing relative to Ordnance Datum Level	m			18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40
Water level relative to Ordnance Datum	m																								
Calculated purge volume	litres																								
Base of Well relative to Ordnance Datum		12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80
Gas Concentrations																									
Date monitored	-	10/01/06	16/02/06	23/03/06	18/04/06	08/05/06	27/06/06	18/07/06	11/08/06	07/09/06	05/10/06	10/11/06	08/12/06	12/01/07	09/02/07	08/03/07	20/04/07	10/05/07	12/06/07	23/07/07	09/08/07	06/09/07	15/10/07	12/11/07	11/12/07
Time of measurement	-		13:30	13:30	13:30	10:00	12:30	10:37	12:30	14:45	11:20	10:15	11:00	10:00	10:30	10:00	10:25	12:40	10:40	12:13	13:41	12:50		13:00	14:25
Methane	% vol																								
Carbon Dioxide	% vol	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Oxygen	% vol	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Atmospheric Pressure	mbar	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
Gas Pressure	mbar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Gas Flow Rate	l/hr																								
Insitu Liquid Determinations																									
pH	pH units	8.13	8.12	7.97	6.94	7.12	8.12	8.4	6.85	6.71	7.12	6.74	6.6	6.52	6.5	6.58	7.69	7.26	7.57	7.46	7.73	7.78		7.99	7.76
Electrical Conductivity	µS/cm	613	544	615	818	1324	806	951	940	971	1005	560	769	1157	876	592	985	596	816	755	1193	597		535	365
Dissolved Oxygen	mg/l	6.68	4.23	4.88	5.02	6.24	4.82	5.43	3.02	3.53	3.26	2.69	1.49	1.12	1.84	1.8	0.49	0.95	1.09	1.48	1.36	3.84		4.86	5.66
Temperature	ºC	6.6	8.5	9.2	11.4	12.6	14.2	13.2	12.6	11.6	10.9	9.3	9	7.8	6.4	6.2	8.1	9.5	11.2	12.7	13.3	12.7		9.4	7.7
Comment			Purged liquid was clear	Purged liquid was clear	Purged liquid was clear	Purged liquid was clear	Purged liquid was clear	Purged liquid was clear		Purged liquid was clear	Purged liquid was clear	Purged liquid was clear	Manhole	Manhole	Manhole	Manhole	Manhole	Manhole	Manhole	Manhole	Manhole	Manhole	Manhole	Manhole	Manhole

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N18**																								
Type Of Sample Required	Leachate	15/01/08	15/02/08	14/03/08	22/04/08	29/05/08	26/06/08	23/07/08	23/08/08	15/09/08	29/10/08	26/11/08	18/12/08	27/01/09	26/02/09	25/03/09	15/04/09	15/05/09	23/06/09	15/07/09	15/08/09	30/09/09	30/10/09	26/11/09	18/12/09
Determinand	Units																								
Water Level																									
Water level to top of casing	m	1.53	1.96	2.05	1.93	2.03	2.10	2.20		2.22	2.31	2.30	2.30	1.85	1.57										
Borehole depth to top of casing	m	5.60	5.50	5.50	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60									
Top of casing relative to Ordnance Datum Level	m	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40									
Water level relative to Ordnance Datum	m											16.10	16.10	16.55	16.83										
Calculated purge volume	litres											26.40	26.40	30.00	32.24										
Base of Well relative to Ordnance Datum		12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80	12.80									
Gas Concentrations																									
Date monitored	-	15/01/08	15/02/08	14/03/08	22/04/08	29/05/08	26/06/08	23/07/08	23/08/08	15/09/08	29/10/08	26/11/08	18/12/08	27/01/09	26/02/09	25/03/09	15/04/09	15/05/09	23/06/09	15/07/09	15/08/09	30/09/09	30/10/09	26/11/09	18/12/09
Time of measurement	-	10:10	10:55	10:50																					
Methane	% vol																								
Carbon Dioxide	% vol	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Oxygen	% vol	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Atmospheric Pressure	mbar	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
Gas Pressure	mbar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Gas Flow Rate	l/hr																								
Insitu Liquid Determinations																									
pH	pH units	8.72	8.11	7.94	7.4	7.5	7.6	8.2			9.69	8													
Electrical Conductivity	µS/cm	547	535	498	475	582	415	438			454	414													
Dissolved Oxygen	mg/l	7.37	4.44	5.2							1.89														
Temperature	℃	7.6	7.6	7.9	7	7	9	11			9.61	7													
Comment		Manhole	Manhole	Manhole	Manhole	Manhole	Manhole	Manhole	Manhole	Manhole	Manhole	Manhole	Manhole	Manhole	Manhole	Manhole	Manhole	Manhole	Manhole	Manhole	Manhole	Manhole	Manhole	Manhole	Manhole

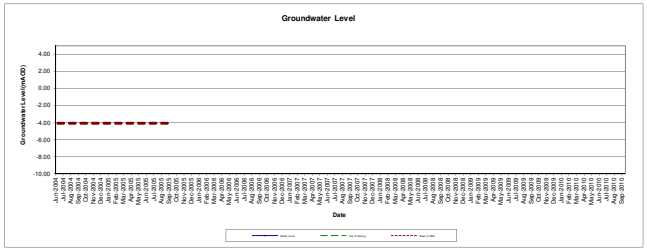
Ness Farm Landfill
Field Monitoring Sheet

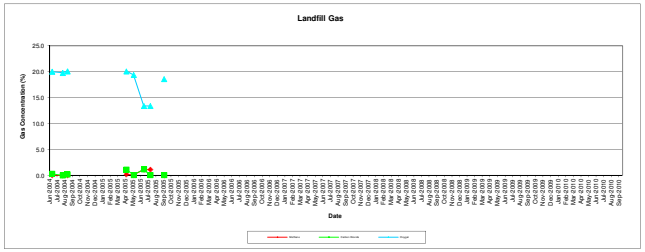
Sampling Location	**N18**											(Dec Mon)			
Type Of Sample Required	Leachate	01/02/10	24/03/10	27/04/10	05/05/10	15/06/10	15/07/10	15/08/10	15/09/10	15/10/10	15/11/10	13/01/11	26/01/11	23/06/11	
Determinand	Units														
Water Level															
Water level to top of casing	m														
Borehole depth to top of casing	m														
Top of casing relative to Ordnance Datum Level	m														
Water level relative to Ordnance Datum	m														
Calculated purge volume	litres														
Base of Well relative to Ordnance Datum															
Gas Concentrations															
Date monitored	-	01/02/10	24/03/10	27/04/10	05/05/10	15/06/10	15/07/10	15/08/10	15/09/10	15/10/10	15/11/10	15/12/10	15/01/11	23/06/11	
Time of measurement	-														
Methane	% vol														
Carbon Dioxide	% vol	S	S	S	S	S	S	S	S	S	S	S	S	S	
Oxygen	% vol	U	U	U	U	U	U	U	U	U	U	U	U	U	
Atmospheric Pressure	mbar	M	M	M	M	M	M	M	M	M	M	M	M	M	
Gas Pressure	mbar	P	P	P	P	P	P	P	P	P	P	P	P	P	
Gas Flow Rate	l/hr														
Insitu Liquid Determinations															
pH	pH units														
Electrical Conductivity	µS/cm														
Dissolved Oxygen	mg/l														
Temperature	℃					10.05									
Comment		Manhole	Manhole	Manhole	Manhole	Manhole	Manhole	Manhole	Manhole	Manhole	Visit not undertaken due to adverse weather	Manhole	Manhole	Monitoring Point not located	

Manhole no longer monitored

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N19																		
Type Of Sample Required	Groundwater	24/06/04	05/08/04	25/08/04	27/09/04	28/10/04	18/11/04	15/12/04	26/01/05	10/03/05	18/04/05	17/05/05	27/06/05	23/07/05	15/08/05	16/09/05	29/10/05	15/11/05	15/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	2.45	2.50	2.46							3.21	4.25	3.91	4.56		5.30			
Borehole depth to top of casing	m	8.45	8.45	8.45	8.45	8.45	8.45	8.45	8.45	8.45	8.45	8.45	8.45	8.45	8.45	8.45			
Top of casing relative to Ordnance Datum Level	m	4.39	4.39	4.39	4.39	4.39	4.39	4.39	4.39	4.39	4.39	4.39	4.39	4.39	4.39	4.39			
Water level relative to Ordnance Datum	m	1.94	1.89	1.93							1.18	0.14	0.48	-0.17	4.39	-0.91			
Calculated purge volume	litres	144.00																	
Base of Well relative to Ordnance Datum		-4.06	-4.06	-4.06	-4.06	-4.06	-4.06	-4.06	-4.06	-4.06	-4.06	-4.06	-4.06	-4.06	-4.06	-4.06			
Gas Concentrations																			
Date monitored	-	24/06/2004	05/08/2004	25/08/2004	27/09/2004	28/10/2004	18/11/2004	15/12/2004	26/01/2005	10/03/2005	18/04/2005	17/05/2005	27/06/2005	23/07/2005	15/08/2005	16/09/2005	29/10/2005	15/11/2005	15/12/2005
Time of measurement	-		14:00	1700hrs					09:30		4.26pm	8.20	1.00	09:06		7:26			
Methane	% vol	<0.1	<0.1	<0.1							0.2	0.1	1.1	1.1		<0.1			
Carbon Dioxide	% vol	0.3	<0.1	0.2							1.1	0.1	1.2	0.1		0.1			
Oxygen	% vol	20.0	19.8	20.1							20.1	19.4	13.4	13.4		18.6			
Atmospheric Pressure	mbar	998	1016	998							1030	1010	1010	1019		1005			
Gas Pressure	mbar	0.0		2.6							<0.1	<0.1	1.1	<0.1		1.2			
Gas Flow Rate	l/hr	<0.1		2.7							<0.1	<0.1	1.2	0.1		0.1			
Insitu Liquid Determinations																			
pH	pH units	7.22									5.9	7.2	6.41	7.2		7.2			
Electrical Conductivity	µS/cm	895									7800	3060	5400	3060		6150			
Dissolved Oxygen	mg/l	4.9									19.1	13.4	9.2	13.4		19.5			
Temperature	℃	11.2									10	11	10	11		13.1			
Comment					Could not access	Unable to locate	Could not acess	Could not acess	Could not Access	Conld Not Acess							not located	not located	not located

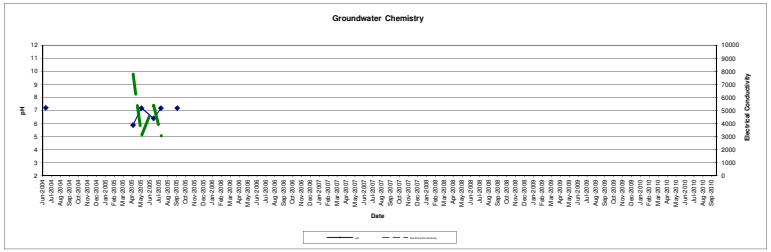




Ness Farm Landfill
Field Monitoring Sheet

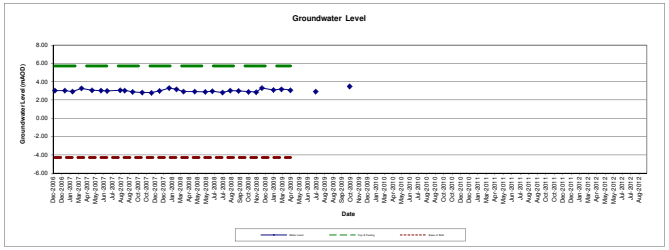
Sampling Location	**N19**											
Type Of Sample Required	Groundwater	11/01/06	16/02/06	23/03/06	18/04/06	08/05/06	26/06/06	18/07/06	11/08/06	06/09/06	05/10/06	
Determinand	Units											
Water Level												
Water level to top of casing	m											
Borehole depth to top of casing	m											
Top of casing relative to Ordnance Datum Level	m											
Water level relative to Ordnance Datum	m											
Calculated purge volume	litres											
Base of Well relative to Ordnance Datum												
Gas Concentrations												
Date monitored	-	11/01/2006	16/02/2006	23/03/2006	18/04/2006	08/05/2006	26/06/2006	18/07/2006	11/08/2006	06/09/2006	05/10/2006	
Time of measurement	-											
Methane	% vol											
Carbon Dioxide	% vol											
Oxygen	% vol											
Atmospheric Pressure	mbar											
Gas Pressure	mbar											
Gas Flow Rate	l/hr											
Insitu Liquid Determinations												
pH	pH units											
Electrical Conductivity	µS/cm											
Dissolved Oxygen	mg/l											
Temperature	℃											
Comment		not located	not located	not located	not located	not located	not located	not located	not located	not located	not located	

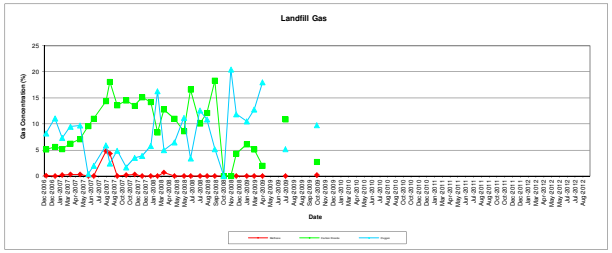
Borehole gone. Re-drilled as 19 A



Ness Farm Landfill
Field Monitoring Sheet

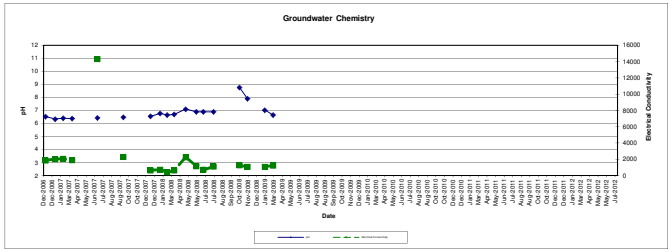
Sampling Location	N19A																						
Type Of Sample Required	Groundwater	08/12/06	12/01/07	09/02/07	13/03/07	20/04/07	22/05/07	12/06/07	30/07/07	14/08/07	12/09/07	17/10/07	19/11/07	18/12/07	21/01/08	16/02/08	12/03/08	22/04/08	29/05/08	24/06/08	30/07/08	27/08/08	26/09/08
Determinand	Units																						
Water Level																							
Water level to top of casing	m	2.67	2.67	2.78	2.43	2.63	2.67	2.70	2.64	2.66	2.82	2.89	2.90	2.71	2.40	2.53	2.79	2.79	2.82	2.74	2.88	2.68	2.71
Borehole depth to top of casing	m	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Top of casing relative to Ordnance Datum Level	m	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71
Water level relative to Ordnance Datum	m	3.04	3.04	2.93	3.28	3.08	3.04	3.01	3.07	3.05	2.89	2.82	2.81	3.00	3.31	3.18	2.92	2.92	2.89	2.97	2.83	3.03	3.00
Calculated purge volume	litres	56.00	56.00	53.00	58.00	N/A	N/A	56.00	N/A	N/A	56.00	N/A	N/A	56.00	59.00	60	58	58	57	58	57	59	58
Base of Well relative to Ordnance Datum		-4.29	-4.29	-4.29	-4.29	-4.29	-4.29	-4.29	-4.29	-4.29	-4.29	-4.29	-4.29	-4.29	-4.29	-4.29	-4.29	-4.29	-4.29	-4.29	-4.29	-4.29	-4.29
Gas Concentrations																							
Date monitored	-	08/12/2006	12/01/2007	09/02/2007	13/03/2007	20/04/2007	22/05/2007	12/06/2007	30/07/2007	14/08/2007	12/09/2007	17/10/2007	19/11/2007	18/12/2007	21/01/2008	16/02/2008	12/03/2008	22/04/2008	29/05/2008	24/06/2008	30/07/2008	27/08/2008	26/09/2008
Time of measurement	-	12:00	11:40	12:15	12:00	14:10	10:20	13:00	11:36	11:58	14:10	11:45	14:10	14:00	13:00	10:45	12:50				00:00	13:18	15:22
Methane	% vol	0.1	0	0.2	0.3	0.3	0.0	0.0	4.8	4.3	0.0	0.2	0.3	0.0	0.0	0.0	0.7	0	0	0	0	0	0
Carbon Dioxide	% vol	5.1	5.6	5.2	6.2	7.1	9.6	11.0	14.4	18.1	13.6	14.5	13.5	15.1	14.2	8.4	12.8	11	8.6	16.6	10.1	12.1	18.3
Oxygen	% vol	8.2	11.1	7.3	9.5	9.7	0.4	2.0	5.9	2.4	4.9	1.7	3.5	3.9	5.8	16.3	5.0	6.5	11.2	3.4	12.6	10.9	5.2
Atmospheric Pressure	mbar	981	988	1007	1017	1022	1014	1009	1017	996	1025	1014	1013	1038	1005	992	984	1015	1010	1014	1008	1002	1022
Gas Pressure	mbar	0.4	1	<0.1	<0.1	<0.1	3.4	<0.1	1.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	-1.5	-0.1
Gas Flow Rate	l/hr	-0.8	-0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																							
pH	pH units	6.53	6.34	6.4	6.38			6.43			6.47			6.55	6.77	6.64	6.7	7.1	6.9	6.9	6.9		
Electrical Conductivity	µS/cm	1847	2037	2052	1888			14320			2290			652	702	421	631	2270	1150	729	1100		
Dissolved Oxygen	mg/l	0.14	0.31	0.5	0.88			1.32			3.91			4.52	5.3	4.75	3.64						
Temperature	℃	15.9	14	14.8	17.8			18.6			18.2			17.2	16.2	10.3	17.8	14	16	15	17		
Comment																							





Ness Farm Landfill
Field Monitoring Sheet

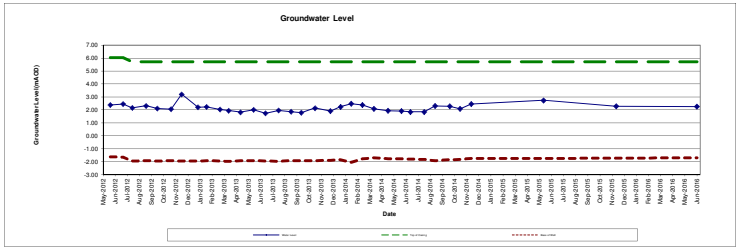
Sampling Location	N19A														
Type Of Sample Required	Groundwater	31/10/08	28/11/08	19/12/08	29/01/09	27/02/09	31/03/09	15/04/09	15/05/09	29/06/09	15/07/09	15/08/09	30/09/09	29/10/09	Well lost in grass and could not be located by GPS. Re-drilled as well N19B on 30th May 2012
Determinand	Units														
Water Level															
Water level to top of casing	m	2.80	2.83	2.40	2.60	2.52	2.62			2.79				2.21	
Borehole depth to top of casing	m	10.00	10.00	10.00	10.00	10.00	10.00			10.00				10.00	
Top of casing relative to Ordnance Datum Level	m	5.71	5.71	5.71	5.71	5.71	5.71			5.71				5.71	
Water level relative to Ordnance Datum	m	2.91	2.88	3.31	3.11	3.19	3.09			2.92				3.50	
Calculated purge volume	litres	57.60	57.36	60.80	59.20	59.84	59.04			57.68				62.32	
Base of Well relative to Ordnance Datum		-4.29	-4.29	-4.29	-4.29	-4.29	-4.29			-4.29				-4.29	
Gas Concentrations															
Date monitored	-	31/10/08	28/11/08	19/12/08	29/01/09	27/02/09	31/03/09			29/06/09				29/10/09	
Time of measurement	-	0.00	9.14	10.35	14.00	14.42	10.25			14.09				2.21	
Methane	% vol	0.00	0.00	0.00	0.00	0.00	0.00			0.00				0.20	
Carbon Dioxide	% vol	0.00	0.00	4.30	6.10	5.10	2.00			10.90				2.70	
Oxygen	% vol	0.00	20.50	11.90	10.50	12.80	18.00			5.20				9.80	
Atmospheric Pressure	mbar	0	1002	1022	1019	1016	1021			1019.00				1023.00	
Gas Pressure	mbar	0.00	-0.54	-2.69	-2.57	-2.41	0.00			-0.72				-2.28	
Gas Flow Rate	l/hr	0.00	<0.1	<0.1	<0.1	<0.1	<0.1			<0.1				-1.10	
Insitu Liquid Determinations															
pH	pH units	8.76	7.9		7.03	6.65									
Electrical Conductivity	µS/cm	1253	1070		1092	1224									
Dissolved Oxygen	mg/l	0.39			0.42	0.33									
Temperature	℃	15.98	12		14.91	17.12									
Comment		Equipment Failure													

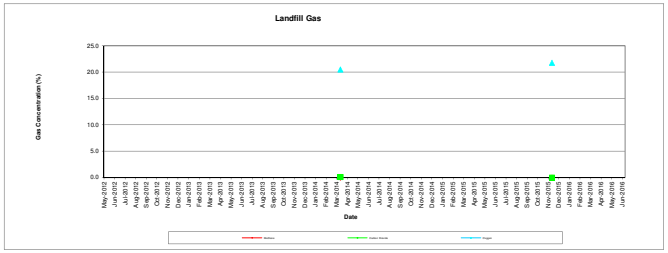


Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N19B																								
Type Of Sample Required	Groundwater	08/06/12	10/07/12	02/08/12	06/09/12	04/10/12	08/11/12	04/12/12	14/01/13	05/02/13	11/03/13	01/04/13	01/05/13	03/06/13	03/07/13	05/08/13	05/09/13	01/10/13	04/11/13	13/12/13	07/01/14	03/02/14	03/03/14	01/04/14	06/05/14
Determinand	Units																								
Water Level																									
Water level to top of casing	m	3.66	3.59	3.55	3.39	3.59	3.64	2.50	3.50	3.47	3.67	3.76	3.88	3.7	3.97	3.75	3.84	3.91	3.56	3.8	3.46	3.22	3.33	3.63	3.78
Borehole depth to top of casing	m	7.67	7.70	7.66	7.64	7.65	7.62	7.66	7.65	7.63	7.65	7.67	7.63	7.63	7.66	7.67	7.64	7.63	7.64	7.61	7.56	7.75	7.48	7.41	7.47
Top of casing relative to Ordnance Datum Level	m	6.05	6.05	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71
Water level relative to Ordnance Datum	m	2.39	2.46	2.16	2.32	2.12	2.07	3.21	2.21	2.24	2.04	1.95	1.83	2.01	1.74	1.96	1.87	1.80	2.15	1.91	2.25	2.49	2.38	2.08	1.93
Calculated purge volume	litres																								
Base of Well relative to Ordnance Datum		-1.62	-1.65	-1.95	-1.93	-1.94	-1.91	-1.95	-1.94	-1.92	-1.94	-1.96	-1.92	-1.92	-1.95	-1.96	-1.93	-1.92	-1.93	-1.90	-1.85	-2.04	-1.77	-1.70	-1.76
Gas Concentrations																									
Date monitored	-																							01/04/14	
Time of measurement	-																							11:31	
Methane	% vol																							<0.1	
Carbon Dioxide	% vol																							0.1	
Oxygen	% vol																							20.5	
Atmospheric Pressure	mbar																							1013	
Gas Pressure	mbar																							-0.24	
Gas Flow Rate	l/hr																							0.1	
Insitu Liquid Determinations																									
pH	pH units							6.6																	
Electrical Conductivity	µS/cm							1170																	
Dissolved Oxygen	mg/l							4.2																	
Temperature	℃							11.8																	
Comment		Padlock removed - key did not fit					No bung	No bung present.				Padlock removed											Can't re-check depth due to restricted access.	Can't re-check depth due to restricted access.	

Cover Level - 6.046m AOD
Ground Level - 5.46m AOD





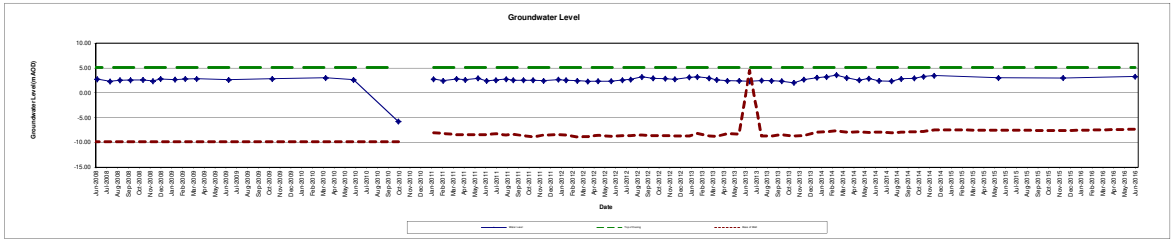
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N19B**										
Type Of Sample Required	Groundwater	09/06/14	01/07/14	05/08/14	01/09/14	08/10/14	03/11/14	01/12/14	01/06/15	01/12/15	20/06/16
Determinand	Units										
Water Level											
Water level to top of casing	m	3.8	3.86	3.86	3.4	3.42	3.63	3.26	2.97	3.42	3.45
Borehole depth to top of casing	m	7.49	7.5	7.54	7.62	7.56	7.53	7.45	7.46	7.44	7.4
Top of casing relative to Ordnance Datum Level	m	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71	5.71
Water level relative to Ordnance Datum	m	1.91	1.85	1.85	2.31	2.29	2.08	2.45	2.74	2.29	2.26
Calculated purge volume	litres										
Base of Well relative to Ordnance Datum		-1.78	-1.79	-1.83	-1.91	-1.85	-1.82	-1.74	-1.75	-1.73	-1.69
Gas Concentrations											
Date monitored	-									01/12/15	
Time of measurement	-									12:45	
Methane	% vol									<0.1	
Carbon Dioxide	% vol									<0.1	
Oxygen	% vol									21.8	
Atmospheric Pressure	mbar									1008	
Gas Pressure	mbar									0.02	
Gas Flow Rate	l/hr									0.1	
Insitu Liquid Determinations											
pH	pH units							6.6	6.6	6.7	6.6
Electrical Conductivity	µS/cm							805	1360	1310	1210
Dissolved Oxygen	mg/l							1.9	2.2	2.5	0.0
Temperature	℃							12.5	14.1	12.4	14.7
Comment											

Cover Level - 6.046m AOD
Ground Level - 5.46m AOD

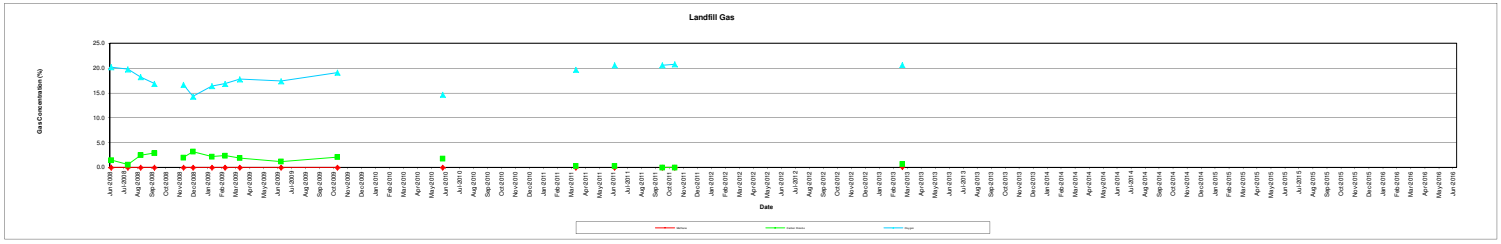
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N20																			
Type Of Sample Required	Groundwater	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	18/04/05	17/05/05	27/06/05	23/07/05	00/01/00	16/09/05	00/01/00	00/01/00	00/01/00
Determinand	Units																			
Water Level																				
Water level to top of casing	m											8.90	7.40	7.20	8.21		7.50			
Borehole depth to top of casing	m											9.50	9.50	9.50	9.50		9.50			
Top of casing relative to Ordnance Datum Level	m											5.14	5.14	5.14	5.14		5.14			
Water level relative to Ordnance Datum	m											-3.76	-2.26	-2.06	-3.07		-2.36			
Calculated purge volume	litres																			
Base of Well relative to Ordnance Datum												-9.86	-9.86	-9.86	-9.86		-9.86			
Gas Concentrations																				
Date monitored	-											18/04/05	17/05/05	27/06/05	23/07/05		16/09/05			
Time of measurement	-											5.45pm	9.50	2.30	09:45		7:08			
Methane	% vol											0.1	<0.1	1.6	2.1		<0.1			
Carbon Dioxide	% vol											0.1	<0.1	1.1	1.1		0.3			
Oxygen	% vol											16.2	14.2	12.9	9.6		17.5			
Atmospheric Pressure	mbar											1028	1010	1010	1019		1006			
Gas Pressure	mbar											1.2	1.1	0.1	1.1		0.1			
Gas Flow Rate	l/hr											1.1	0.1	0.1	1.1		0.2			
Insitu Liquid Determinations																				
pH	pH units												6.2	5.61	6.2		7.1			
Electrical Conductivity	µS/cm												3516	1216	3516		8210			
Dissolved Oxygen	mg/l												18.2	10.1	18.2		16.1			
Temperature	ºC												11	10	11		12.6			
Comment		Could not access, area flooded	Could not locate	Could not access, flooded	Could not acess. Flooded	Unable to locate	Could not acess	Could not acess	Could not Access	Could Not Acess	insufficient to sample							not located	not located	not located



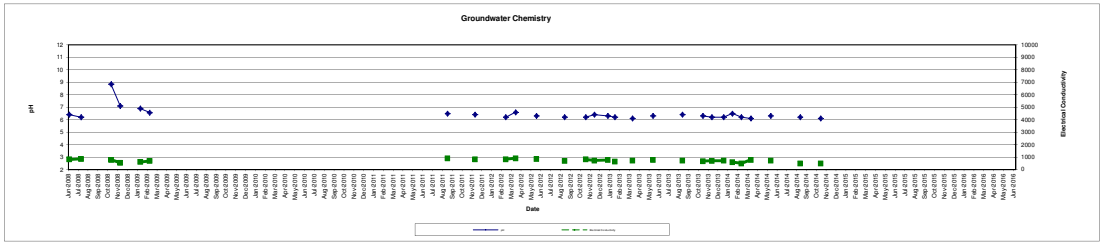
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N20																							
Type Of Sample Required	Groundwater	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	22/05/07	12/06/07	30/07/07	14/08/07	12/09/07	17/10/07	19/11/07	18/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m																		2.66	2.72	2.54	2.60	2.73	2.81	2.81	2.58
Borehole depth to top of casing	m																		15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
Top of casing relative to Ordnance Datum Level	m																		5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14
Water level relative to Ordnance Datum	m																		2.48	2.42	2.60	2.54	2.41	2.33	2.33	2.56
Calculated purge volume	litres																		N/A	92.00	N/A	N/A	92.00	N/A	N/A	96.00
Base of Well relative to Ordnance Datum																			-9.86	-9.86	-9.86	-9.86	-9.86	-9.86	-9.86	-9.86
Gas Concentrations																									
Date monitored	-																		22/05/07	12/06/07	30/07/07	14/08/07	12/09/07	17/10/07	19/11/07	18/12/07
Time of measurement	-																		10:00	14:00	11:27	11:27	13:00	11:10	13:50	12:00
Methane	% vol																		0	0	0.1	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol																		1.4	2.3	2.2	5.5	2.0	0.0	2.6	2.7
Oxygen	% vol																		19.8	18.9	16.4	14.0	18.3	20.3	18.6	18.1
Atmospheric Pressure	mbar																		1015	1009	1017	997	1025	1013	1013	1039
Gas Pressure	mbar																		4	-5.3	3.4	-1.4	<0.1	<0.1	<0.1	-0.8
Gas Flow Rate	l/hr																		<0.1	<0.1	-0.1	-1.7	<0.1	<0.1	<0.1	-0.5
Insitu Liquid Determinations																									
pH	pH units																			6			5.96			7.06
Electrical Conductivity	µS/cm																			1205			1129			654
Dissolved Oxygen	mg/l																			0.74			3.79			3.63
Temperature	℃																			10.7			10.9			10
Comment		not located	BOREHOLE GONE	BOREHOLE GONE	BOREHOLE GONE	BOREHOLE GONE	BOREHOLE GONE	Cannot locate	Cannot locate	BOREHOLE GONE	BOREHOLE GONE	BOREHOLE GONE	Casing stuck closed could not sample	Casing Stuck Shut. Faulty Allen Key	Casing Stuck Shut. Faulty Allen Key	Casing Stuck Shut. Faulty Allen Key	Casing Stuck Shut. Faulty Allen Key						Tap left open (venting)	Tap left open (venting)	



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N20																				(Sept mon)		(Dec Mon)				
Type Of Sample Required	Groundwater	21/01/08	19/02/08	12/03/08	22/04/08	30/05/08	24/06/08	30/07/08	27/08/08	26/09/08	31/10/08	28/11/08	19/12/08	29/01/09	27/02/09	31/03/09	29/06/09	29/10/09	29/03/10	15/06/10	19/10/10	15/11/10	13/01/11	26/01/11	22/02/11	01/04/11	25/04/11
Determinand	Units																										
Water Level																											
Water level to top of casing	m	2.19	2.36	2.57	2.55	2.75	2.76	2.82	2.58	2.57	2.54	2.75	2.33	2.46	2.33	2.30	2.49	2.31	2.10	2.49	10.90			2.37	2.70	2.35	2.50
Borehole depth to top of casing	m	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	13.12	13.78	14.41			13.19	13.29	13.60	13.60
Top of casing relative to Ordnance Datum Level	m	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14			5.14	5.14	5.14	5.14
Water level relative to Ordnance Datum	m	2.95	2.78	2.57	2.59	2.39	2.76	2.32	2.56	2.57	2.60	2.39	2.81	2.68	2.81	2.84	2.65	2.83	3.04	2.65	-5.76			2.77	2.44	2.79	2.64
Calculated purge volume	litres	98.00	101	99	100	98	98	97	99	99	99.68	98.00	101.36	100.32	101.36	101.60	100.08	101.52									
Base of Well relative to Ordnance Datum		-9.86	-9.86	-9.86	-9.86	-9.86	-9.86	-9.86	-9.86	-9.86	-9.86	-9.86	-9.86	-9.86	-9.86	-9.86	-9.86	-9.86	-9.86	-9.86	-9.86			-8.05	-8.15	-8.46	-8.46
Gas Concentrations																											
Date monitored	-	21/01/08	19/02/08	12/03/08	22/04/08	30/05/08	24/06/08	30/07/08	27/08/08	26/09/08	31/10/08	28/11/08	19/12/08	29/01/09	27/02/09	31/03/09	29/06/09	29/10/09	29/03/10	15/06/10	19/10/10				22/02/11	01/04/11	25/04/11
Time of measurement	-	12:25	11:15	11:50				00:00	15:13	14:31		9.37	11.42	14.48	14.54	10.53	15.09	14.33	15:40	15:55	11:05				12:15	9:30	14:27
Methane	% vol	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00	0.00		<0.1						<0.1	
Carbon Dioxide	% vol	3.4	3.6	4.3	2.8	1.5	1.5	0.6	2.5	2.9		2.00	3.20	2.20	2.40	1.90	1.20	2.10		1.8						0.30	
Oxygen	% vol	17.9	17.1	16.6	15.4	19.6	20.2	19.8	18.2	16.9		16.70	14.30	16.40	16.90	17.80	17.40	19.10		14.7						19.7	
Atmospheric Pressure	mbar	1005	998	982	1017	1015	1014	1005	1002	1023		1003	1018	1019	1016	1021	1017.00	1022.00		1029						1001	
Gas Pressure	mbar	-0.9	-0.5	<0.1	<0.1	<0.1	-1.4	<0.1	<0.1	<0.1		7.40	4.04	-2.10	-2.80	0.05	0.10	0.20		+/-0.01						-0.05	
Gas Flow Rate	l/hr	-0.2	-0.2	<0.1	<0.1	<0.1	-2.8	<0.1	<0.1	-0.9		0.00	#REF!	-1.50	-1.40	<0.1	<0.1	<0.1		-0.1						0.0	
Insitu Liquid Determinations																											
pH	pH units	7.12	7.08	7.13	7	6.3	6.4	6.2			8.84	7.1		6.89	6.57												
Electrical Conductivity	µS/cm	505	523	564	512	863	815	856			775	552		609	683												
Dissolved Oxygen	mg/l	3.84	4.21	4.78							0.67			0.03	0.41												
Temperature	ºC	9.5	9.7	9.9	9	9	9	8			9.96	6		9.68	10.32						9.7						
Comment											Equipment Failure											Visit not undertaken due to adverse weather	Could not locate				Cap not on properly. Tap closed.



Ness Farm Landfill
Field Monitoring Sheet

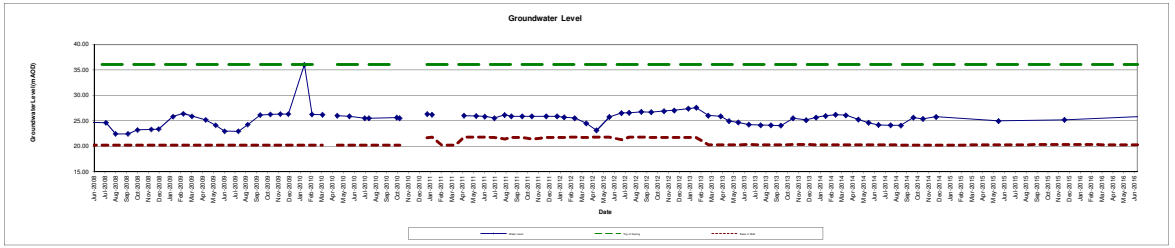
Sampling Location	**N20**																						
Type Of Sample Required	Groundwater	31/05/11	24/06/11	20/07/11	18/08/11	07/09/11	06/10/11	02/11/11	01/12/11	12/01/12	02/02/12	05/03/12	04/04/12	02/05/12	08/06/12	10/07/12	02/08/12	03/09/12	04/10/12	07/11/12	04/12/12	14/01/13	05/02/13
Determinand	Units																						
Water Level																							
Water level to top of casing	m	2.20	2.72	2.57	2.36	2.59	2.61	2.59	2.69	2.45	2.60	2.69	2.83	2.79	2.78	2.57	2.44	1.91	2.22	2.27	2.41	2.03	1.93
Borehole depth to top of casing	m	13.60	13.60	13.35	13.66	13.51	13.74	14.02	13.64	13.60	13.63	14.05	13.98	13.73	13.90	13.77	13.79	13.64	13.79	13.78	13.84	13.82	13.30
Top of casing relative to Ordnance Datum Level	m	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14
Water level relative to Ordnance Datum	m	2.94	2.42	2.57	2.78	2.55	2.53	2.55	2.45	2.69	2.54	2.45	2.31	2.35	2.36	2.57	2.70	3.23	2.92	2.87	2.73	3.11	3.21
Calculated purge volume	litres																						
Base of Well relative to Ordnance Datum		-8.46	-8.46	-8.21	-8.52	-8.37	-8.60	-8.88	-8.50	-8.46	-8.49	-8.91	-8.84	-8.59	-8.76	-8.63	-8.65	-8.50	-8.65	-8.64	-8.70	-8.68	-8.16
Gas Concentrations																							
Date monitored	-	31/05/11	24/06/11	20/07/11			06/10/11	02/11/11													04/12/12		
Time of measurement	-	12:13	13:42	13:14			11:51	16:44													12:37		
Methane	% vol		<0.1				<0.1	<0.1															
Carbon Dioxide	% vol		0.3				<0.1	<0.1															
Oxygen	% vol		20.6				20.6	20.8															
Atmospheric Pressure	mbar		1019				994	1001															
Gas Pressure	mbar		0.00				-0.38	<0.01															
Gas Flow Rate	l/hr		<0.1				<0.1	<0.1															
Insitu Liquid Determinations																							
pH	pH units					6.5			6.4			6.2	6.6		6.3			6.2		6.2	6.4	6.3	6.2
Electrical Conductivity	µS/cm					895			825			835	905		840			695		815	730	765	645
Dissolved Oxygen	mg/l					0.1						5.5	8.6		5.7			<1.0		3.8	6.9	5.5	6.8
Temperature	℃					12.5			9.2			10.3	9.9		10.2			12.5		10.6	8.9	8.1	8.6
Comment												Bottom of borehole very soft/muddy	Base of borehole very soft	Borehole bottom very soft/muddy	Soft sediment at base of borehole	Soft sediment at base of borehole	Soft sediment at base of borehole	Soft sediment at base of borehole.	Soft sediment at base of borehole				Difficult to guage depth due to volume of water.

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N20**																									
Type Of Sample Required	Groundwater	11/03/13	01/04/13	01/05/13	03/06/13	03/07/13	05/08/13	02/09/13	01/10/13	04/11/13	02/12/13	07/01/14	03/02/14	03/03/14	01/04/14	06/05/14	02/06/14	01/07/14	05/08/14	01/09/14	08/10/14	03/11/14	03/12/14	01/06/15	01/12/15	20/06/16
Determinand	Units																									
Water Level																										
Water level to top of casing	m	2.17	2.52	2.7	2.74	2.82	2.67	2.7	2.79	3.12	2.46	2.09	1.92	1.58	2.1	2.61	2.23	2.74	2.78	2.31	2.2	1.86	1.66	2.1	2.13	1.86
Borehole depth to top of casing	m	13.81	13.87	13.37	13.42	13:58	13.85	13.85	13.55	13.82	13.75	13.03	13	12.78	13.03	12.98	13.13	13.04	13.19	13.08	13.02	12.9	12.62	12.65	12.74	12.46
Top of casing relative to Ordnance Datum Level	m	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14
Water level relative to Ordnance Datum	m	2.97	2.62	2.44	2.40	2.32	2.47	2.44	2.35	2.02	2.68	3.05	3.22	3.56	3.04	2.53	2.91	2.40	2.36	2.83	2.94	3.28	3.48	3.04	3.01	3.28
Calculated purge volume	litres																									
Base of Well relative to Ordnance Datum		-8.67	-8.73	-8.23	-8.28	4.56	-8.71	-8.71	-8.41	-8.68	-8.61	-7.89	-7.86	-7.64	-7.89	-7.84	-7.99	-7.90	-8.05	-7.94	-7.88	-7.76	-7.48	-7.51	-7.60	-7.32
Gas Concentrations																										
Date monitored	-	11/03/13	01/04/13																							
Time of measurement	-	11:33	10:50																							
Methane	% vol	0.1																								
Carbon Dioxide	% vol	0.7																								
Oxygen	% vol	20.7																								
Atmospheric Pressure	mbar	1024																								
Gas Pressure	mbar	-0.12																								
Gas Flow Rate	l/hr	0.1																								
Insitu Liquid Determinations																										
pH	pH units		6.1		6.3			6.4		6.3	6.2	6.2	6.5	6.2	6.1		6.3			6.2		6.1				
Electrical Conductivity	µS/cm		710		770			730		680	700	720	595	500	780		730			490		480				
Dissolved Oxygen	mg/l		5.2		3.7			7.2		8.0	3.8	5	7.7	4.1	5.42		5			5.8		7.5				
Temperature	℃	9.3	9.7		13.0			13.7		10.4	8.3	9.5	9.1	9.7	9.5		11.1			12.9		10.0				
Comment		Difficult to gauge depth due to volume of water.			Difficult to gauge depth due to volume of water		Very spongy base of borehole		Very spongy base of borehole			High water level made depth measurement difficult	High water level, orange in colour, Depth same as last month.	High water level, orange in colour, Depth has been reduced further.	High water level, orange in colour, Depth has been reduced further. OK.		The cut down trees beside sample point have been removed.									

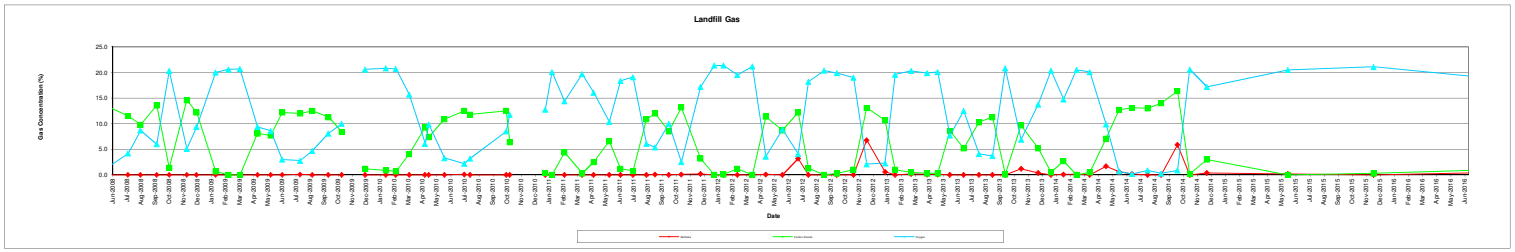
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N21																		
Type Of Sample Required	None	22/06/04	04/08/04	25/08/04	27/09/04	05/11/04	17/11/04	15/12/04	26/01/05	09/03/05	18/04/05	17/05/05	27/06/05	23/07/05	16/08/05	16/09/05	28/10/05	18/11/05	15/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	11.72	11.77	11.94	11.95	11.94	11.72	10.71	10.29	10.83	5.98	6.71	6.31	9.46	11.80	11.40	13.70		
Borehole depth to top of casing	m	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82		
Top of casing relative to Ordnance Datum Level	m	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06		
Water level relative to Ordnance Datum	m	24.34	24.29	24.12	24.11	24.12	24.34	25.35	25.77	25.23	30.08	29.35	29.75	26.60	24.26	24.66	22.36		
Calculated purge volume	litres																		
Base of Well relative to Ordnance Datum		20.24	20.24	20.24	20.24	20.24	20.24	20.24	20.24	20.24	20.24	20.24	20.24	20.24	20.24	20.24	20.24		
Gas Concentrations																			
Date monitored	-	22/06/04	04/08/04	25/08/04	27/09/04	05/11/04	17/11/04	15/12/04	26/01/05	09/03/05	18/04/05	17/05/05	27/06/05	23/07/05	16/08/05	16/09/05	28/10/05	18/11/05	15/12/05
Time of measurement	-		18:30	0705hrs	10:10	12:00	14:10	09:10	09:10	09:30	6.26pm	10.30	4.00	10:20	8.54	7:45	10:11	14:11	15:30
Methane	% vol	0.2	<0.1	0.1	0.1	<0.1	<0.1	<0.1	1.7	<0.1	1.5	1.1	<0.1	0.1	<0.1	3.1	<0.1	6.6	5.9
Carbon Dioxide	% vol	15.4	14.8	11.4	11.5	11.4	1.7	16.2	5.6	<0.1	4.2	1.4	<0.1	0.1	4	2.3	4.8	19.5	19.7
Oxygen	% vol	0.1	1.5	7.7	7.6	7.9	16.5	3.8	14	20.3	20.4	21.2	9.6	10.4	9.6	21.1	15.3	<0.1	<0.1
Atmospheric Pressure	mbar	1007	1013	1003	1007	1010	997	1004	1032	1024	1030	1011	1010	1019	1019	1006	992	1023	1007
Gas Pressure	mbar	0.0		2	2	2	4.9	2.2	1.3	<0.1	1.2	1.2	0.1	2.1	0.1	0		3.8	2.9
Gas Flow Rate	l/hr	0.1		2.8	2.9	2.8	3.4	2.2	<0.1	2.1	1	0.1	0.1	1.2	1.1	<0.1		0.2	0.3
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment																		Cap stuck	Cap stuck



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N21																							
Type Of Sample Required	None	11/01/06	10/02/06	21/03/06	18/04/06	08/05/06	08/06/06	18/07/06	09/08/06	06/09/06	05/10/06	09/11/06	08/12/06	12/01/07	09/02/07	13/03/07	20/04/07	22/05/07	12/06/07	23/07/07	09/08/07	10/09/07	15/10/07	13/11/07	17/12/07
Determinand	Units																							
Water Level																								
Water level to top of casing	m																			10.15	10.17	10.20	12.93	12.95	12.95
Borehole depth to top of casing	m																			15.82	15.82	15.82	15.82	15.82	15.82
Top of casing relative to Ordnance Datum Level	m																			36.06	36.06	36.06	36.06	36.06	36.06
Water level relative to Ordnance Datum	m																			25.91	25.89	25.86	23.13	23.11	23.11
Calculated purge volume	litres																								
Base of Well relative to Ordnance Datum																				20.24	20.24	20.24	20.24	20.24	20.24
Gas Concentrations																								
Date monitored	-	11/01/06	10/02/06	21/03/06	18/04/06	08/05/06	08/06/06	18/07/06	09/08/06	06/09/06	05/10/06	09/11/06	08/12/06	12/01/07	09/02/07	13/03/07	20/04/07	22/05/07	12/06/07	23/07/07	09/08/07	10/09/07	15/10/07	13/11/07	17/12/07
Time of measurement	-	11:40	10:40	11:45																09:55	10:05	14:20	10:15	15:45	13:15
Methane	% vol	0.4	6.20	0.00																0.2	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	15.4	14.50	11.40																13.1	12.3	11.0	12.8	13.7	15.2
Oxygen	% vol	0.6	0.70	2.10																3.3	4.0	4.7	4.3	5.6	5.2
Atmospheric Pressure	mbar	1000	1020	1012																999	1016	1013	998	998	1036
Gas Pressure	mbar	2.2	-0.5	2.3																Gas tap	Gas tap	Gas tap	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1																to be fitted	to be fitted	to be fitted	<0.1	<0.1	<0.1
Insitu Liquid Determinations																								
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	ºC																								
Comment		Cap stuck	Cap Stuck On/ No cover	Cap Stuck On/ No cover	Borehole requires refurbishment	Borehole requires refurbishment	Borehole requires refurbishment	Borehole requires refurbishment	Borehole requires refurbishment	Borehole requires refurbishment	Borehole requires refurbishment	Borehole requires refurbishment	Borehole requires refurbishment	Borehole requires refurbishment	Borehole requires refurbishment	Borehole requires refurbishment	Borehole requires refurbishment	Borehole requires refurbishment	Borehole requires refurbishment	venting reading	venting reading	venting borehole			



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N21**																								
Type Of Sample Required	None	22/01/08	18/02/08	04/03/08	22/04/08	30/05/08	18/06/08	24/07/08	20/08/08	24/09/08	21/10/08	28/11/08	19/12/08	29/01/09	26/02/09	23/03/09	30/04/09	28/05/09	22/06/09	31/07/09	26/08/09	30/09/09	29/10/09	26/11/09	18/12/09
Determinand	Units																								
Water Level																									
Water level to top of casing	m	12.88	12.92	12.95	10.18	10.28	11.39	11.41	13.64	13.63	12.84	12.72	12.68	10.19	9.63	10.13	10.87	11.92	13.08	13.14	11.82	9.89	9.78	9.72	9.71
Borehole depth to top of casing	m	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82	15.82
Top of casing relative to Ordnance Datum Level	m	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06
Water level relative to Ordnance Datum	m	23.18	23.14	23.11	25.88	25.78	24.67	24.65	22.42	22.43	23.22	23.34	23.38	25.87	26.43	25.93	25.19	24.14	22.98	22.92	24.24	26.17	26.28	26.34	26.35
Calculated purge volume	litres							35.28	17.44	17.52	23.84	24.80	25.12	45.04	49.52	45.52	39.60	31.20	21.92	21.44	32.00	47.44	48.32		48.88
Base of Well relative to Ordnance Datum		20.24	20.24	20.24	20.24	20.24	20.24	20.24	20.24	20.24	20.24	20.24	20.24	20.24	20.24	20.24	20.24	20.24	20.24	20.24	20.24	20.24	20.24	20.24	20.24
Gas Concentrations																									
Date monitored	-	22/01/08	18/02/08	04/03/08	22/04/08	30/05/08	18/06/08	24/07/08	20/08/08	24/09/08	21/10/08	28/11/08	19/12/08	29/01/09	26/02/09	23/03/09	30/04/09	28/05/09	22/06/09	31/07/09	26/08/09	30/09/09	29/10/09		18/12/09
Time of measurement	-	11:00	12:00	12:30				00:00	13:27	14:07	15.20	15.04	15.52	11.13	14.46	15.03	15.51	13.02	12.05		14.55	14.15	13.06		11.35
Methane	% vol	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00		0.00
Carbon Dioxide	% vol	16.4	14.7	12.9	7.3	14.1	13.0	11.5	9.8	13.6	1.40	14.60	12.20	0.70	0.00	0.00	8.10	7.70	12.20	12.00	12.50	11.30	8.40		1.20
Oxygen	% vol	7.2	8.6	10.4	9.3	0.9	2.0	4.2	8.7	6.0	20.30	5.10	9.40	20.00	20.60	20.70	9.40	8.60	3.00	2.80	4.70	8.10	10.00		20.60
Atmospheric Pressure	mbar	1009	989	1022	1013	1009	990	1009	992	1021	993	995	1003	1020	1012	1008	1010.00	1022.00	1023.00	1010.00	995.00	1013.00	1017.00		1016.00
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.02	0.06	-0.01	0.01	0.03	0.01	0.00	0.14	0.02	0.05	0.08	0.02		0.00
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1		<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	ºC																								
Comment																							Gas analysis lost		

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N21**									(Sept mon)			(Dec Mon)												
Type Of Sample Required	None	01/02/10	23/02/10	24/03/10	27/04/10	05/05/10	08/06/10	21/07/10	02/08/10	19/10/10	27/10/10	15/11/10	12/01/11	26/01/11	22/02/11	01/04/11	26/04/11	30/05/11	23/06/11	20/07/11	18/08/11	06/09/11	06/10/11	02/11/11	13/12/11
Determinand	Units																								
Water Level																									
Water level to top of casing	m	0.00	9.80	9.86		10.05	10.16	10.53	10.55	10.43	10.51		9.72	9.84			10.03	10.12	10.20	10.51	9.88	10.17	10.18	10.17	10.18
Borehole depth to top of casing	m	15.82	14.27	14.27		14.27	14.29	14.31	14.29	15.30	14.40		14.40	14.28			14.28	14.28	14.28	14.35	14.65	14.31	14.32	14.63	14.32
Top of casing relative to Ordnance Datum Level	m	36.06	36.06	36.06		36.06	36.06	36.06	36.06	36.06	36.06		36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06
Water level relative to Ordnance Datum	m	36.06	26.26	26.20		26.01	25.90	25.53	25.51	25.63	25.55		26.34	26.22			26.03	25.94	25.86	25.55	26.18	25.89	25.88	25.89	25.88
Calculated purge volume	litres	126.56																							
Base of Well relative to Ordnance Datum		20.24	20.24	20.24		20.24	20.24	20.24	20.24	20.24	20.24		21.66	21.78	20.24	20.24	21.78	21.78	21.78	21.71	21.41	21.75	21.74	21.43	21.74
Gas Concentrations																									
Date monitored	-	01/02/10	23/02/10	24/03/10	27/04/10	05/05/10	08/06/10	21/07/10	02/08/10	18/10/10	27/10/10		12/01/11	26/01/11	22/02/11	01/04/11	26/04/11	30/05/11	23/06/11	20/07/11	18/08/11	06/09/11	06/10/11	02/11/11	13/12/12
Time of measurement	-	11.31	13:00	09:15	09:35	10:48	13:01	11:18	16:15	13:15	12:38		10:00	13:10	15:00	14:15	10:19	16:26	11:23	10:47	11:34	15:32	10:59	10:32	13:13
Methane	% vol	0.00	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.2
Carbon Dioxide	% vol	0.90	0.7	4.1	9.3	7.4	10.9	12.5	11.8	12.5	6.4		0.4	<0.1	4.4	0.3	2.5	6.6	1.2	0.8	10.9	12.0	8.5	13.2	3.2
Oxygen	% vol	20.80	20.7	15.7	6.1	9.9	3.3	2.2	3.2	8.5	11.8		12.8	20.1	14.4	19.7	16.1	10.4	18.4	19.1	6.1	5.4	10.0	2.5	17.2
Atmospheric Pressure	mbar	1011.00	995	1000	1018	1016	1005	996	1011	1001	1001		1000	1017	1010	1001	1028	1005	1009	1007	1015	980	991	1000	964
Gas Pressure	mbar	0.00	0.07	0.01	+/-0.01	-0.1	0.04	0.03	0.05	0.03	+/-0.01		-0.17	0.12	0.37	-0.05	0	0	0.00	-0.16	-0.03	0.01	-0.20	-0.04	<0.1
Gas Flow Rate	l/hr	0.10	0.0	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.1	0.1	+/-0.1	+/-0.1		+/-0.1	+/-0.1	0.4	0.0	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	ºC																								
Comment												Visit not undertaken due to adverse weather												

Ness Farm Landfill
Field Monitoring Sheet

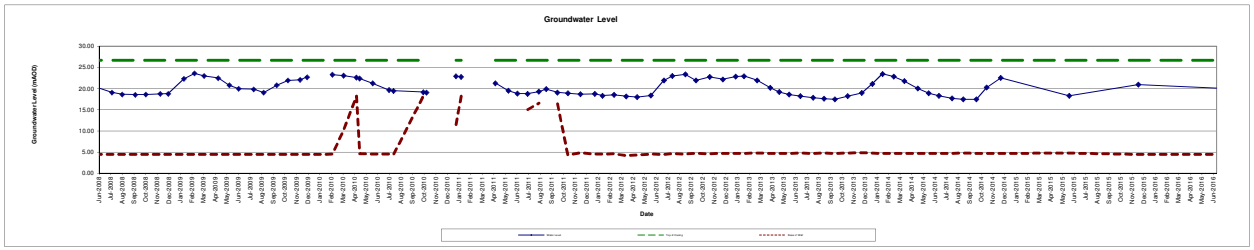
Sampling Location	**N21**																								
Type Of Sample Required	None	12/01/12	01/02/12	02/03/12	03/04/12	02/05/12	07/06/12	11/07/12	02/08/12	05/09/12	03/10/12	08/11/12	06/12/12	15/01/13	06/02/13	12/03/13	16/04/13	09/05/13	04/06/13	04/07/13	06/08/13	04/09/13	02/10/13	05/11/13	12/12/13
Determinand	Units																								
Water Level																									
Water level to top of casing	m	10.18	10.34	10.51	11.54	12.93	10.29	9.50	9.49	9.26	9.35	9.13	9.00	8.67	8.47	10.00	10.16	11.09	11.34	11.78	11.89	11.93	11.97	10.55	10.88
Borehole depth to top of casing	m	14.30	14.32	14.26	14.32	14.28	14.27	14.75	14.29	14.27	14.30	14.31	14.35	14.31	14.33	15.78	15.79	15.77	15.74	15.71	15.76	15.77	15.78	15.73	15.72
Top of casing relative to Ordnance Datum Level	m	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06
Water level relative to Ordnance Datum	m	25.88	25.72	25.55	24.52	23.13	25.77	26.56	26.57	26.80	26.71	26.93	27.06	27.39	27.59	26.06	25.90	24.97	24.72	24.28	24.17	24.13	24.09	25.51	25.18
Calculated purge volume	litres																								
Base of Well relative to Ordnance Datum		21.76	21.74	21.80	21.74	21.78	21.79	21.31	21.77	21.79	21.76	21.75	21.71	21.75	21.73	20.28	20.27	20.29	20.32	20.35	20.30	20.29	20.28	20.33	20.34
Gas Concentrations																									
Date monitored	-	12/01/12	01/02/12	02/03/12	03/04/12	02/05/12	07/06/12	11/07/12	02/08/12	05/09/12	03/10/12	08/11/12	06/12/12	15/01/13	06/02/13	12/03/13	16/04/13	09/05/13	04/06/13	04/07/13	06/08/13	04/09/13	02/10/13	05/11/13	12/12/13
Time of measurement	-	10:36	10:06	11:23	10:56	12:41	14:02	11:29	15:21	13:57	15:05	11:15	12:26	14:45	14:18	15:51	13:11	14:46	10:50	13:00	12:19	12:19	10:09	13:22	12:07
Methane	% vol	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	3.2	<0.1	<0.1	<0.1	<0.1	6.8	0.6	<0.1	0.2	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.2	0.4
Carbon Dioxide	% vol	<0.1	0.1	1.2	<0.1	11.4	8.7	12.2	1.3	<0.1	0.3	1.0	13.1	10.7	1.0	0.5	0.3	0.3	8.6	5.2	10.3	11.3	0.1	9.7	5.2
Oxygen	% vol	21.4	21.4	19.5	21.2	3.6	8.9	4.1	18.2	20.4	19.9	19.0	2.1	2.3	19.6	20.3	19.9	20.1	7.7	12.5	4.1	3.7	20.8	6.9	13.8
Atmospheric Pressure	mbar	1015	1037	1023	1009	1025	996	1006	1001	1022	991	1006	993	1012	1010	1012	992	997	1020	1004	1008	1013	1010	987	1010
Gas Pressure	mbar	<0.01	0.02	0.15	-0.10	-0.13	-0.22	-0.04	-0.26	-0.03	0.11	0.31	0.12	-0.05	0.09	-0.13	-0.05	-0.14	0.09	-0.09	-0.22	-0.16	0.07	0.2	0.04
Gas Flow Rate	l/hr	-0.2	-0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	0.2	-0.2	-0.3	<0.1	<0.1	-0.1	<0.1	-0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	ºC																								
Comment																			Replace tap and bung						

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N21**															
Type Of Sample Required	None	08/01/14	04/02/14	04/03/14	02/04/14	07/05/14	04/06/14	02/07/14	05/08/14	03/09/14	08/10/14	04/11/14	11/12/14	04/06/15	07/12/15	29/06/16
Determinand	Units															
Water Level																
Water level to top of casing	m	10.39	10.06	9.86	9.94	10.78	11.4	11.87	11.93	11.96	10.41	10.68	10.26	11.07	10.87	10.22
Borehole depth to top of casing	m	15.75	15.78	15.75	15.75	15.77	15.76	15.78	15.75	15.8	15.82	15.8	15.8	15.79	15.73	15.77
Top of casing relative to Ordnance Datum Level	m	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06	36.06
Water level relative to Ordnance Datum	m	25.67	26.00	26.20	26.12	25.28	24.66	24.19	24.13	24.10	25.65	25.38	25.80	24.99	25.19	25.84
Calculated purge volume	litres															
Base of Well relative to Ordnance Datum		20.31	20.28	20.31	20.31	20.29	20.30	20.28	20.31	20.26	20.24	20.26	20.26	20.27	20.33	20.29
Gas Concentrations																
Date monitored	-	08/01/14	04/02/14	04/03/14	02/04/14	07/05/14	04/06/14	02/07/14	05/08/14	03/09/14	08/10/14	04/11/14	11/12/14	04/06/15	07/12/15	29/06/16
Time of measurement	-	13:07	09:50	15:38	10:26	10:01	15:21	10:38	14:33	13:06	15:20	11:00	10:46	14:38	14:20	12:20
Methane	% vol	<0.1	0.1	0.1	<0.1	1.7	0.6	0.2	<0.1	<0.1	5.9	<0.1	0.4	0.2	<0.1	0.4
Carbon Dioxide	% vol	0.5	2.7	<0.1	0.5	7.1	12.7	13.1	13	14	16.4	0.2	3	<0.1	0.3	0.9
Oxygen	% vol	20.4	14.8	20.5	20.1	9.9	0.7	0.2	0.9	0.3	0.9	20.6	17.2	20.5	21.1	19.3
Atmospheric Pressure	mbar	1001	989	993	1006	994	1003	1012	1013	1020	989	990	988	1021	1014	997
Gas Pressure	mbar	-0.09	-0.25	-0.14	0.17	-0.16	-0.18	0.35	-0.25	-0.14	-0.12	<0.01	0.14	-0.05	-0.07	<0.01
Gas Flow Rate	l/hr	<0.1	-0.3	0.1	0.2	<0.1	0.1	-0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	0.1	0.1
Insitu Liquid Determinations																
pH	pH units															
Electrical Conductivity	µS/cm															
Dissolved Oxygen	mg/l															
Temperature	℃															14.9
Comment																

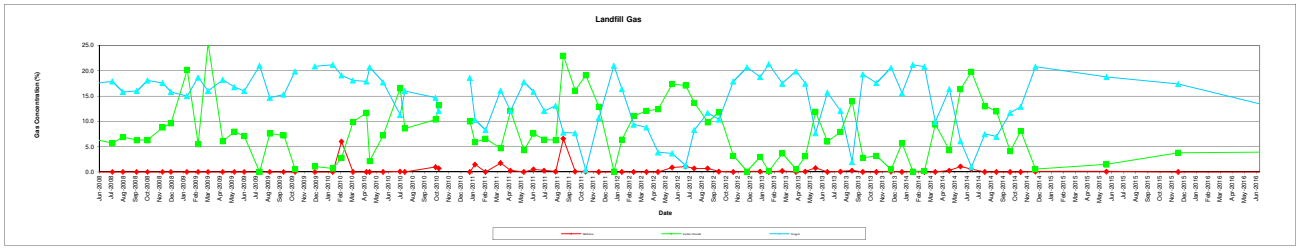
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N22																			
Type Of Sample Required	Leachate	22/06/04	05/08/04	25/08/04	27/09/04	28/10/04	18/11/04	15/12/04	26/01/05	10/03/05	18/04/05	17/05/05	27/06/05	23/07/05	16/08/05	16/09/05	29/10/05	15/11/05	08/12/05
Determinand	Units																			
Water Level																				
Water level to top of casing	m	6.69	5.03	8.50	9.10	9.11	9.08	8.68	8.50	8.20	9.60	10.21	10.01	10.87	9.21	9.18	5.85	9.74	9.66
Borehole depth to top of casing	m	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22
Top of casing relative to Ordnance Datum Level	m	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68
Water level relative to Ordnance Datum	m	19.99	21.65	18.18	17.58	17.57	17.60	18.00	18.18	18.48	17.08	16.47	16.67	15.81	17.47	17.50	20.83	16.94	17.02
Calculated purge volume	litres	372.72																	
Base of Well relative to Ordnance Datum		4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46
Gas Concentrations																				
Date monitored	-	22/06/2004	05/08/2004	25/08/2004	27/09/2004	28/10/2004	18/11/2004	15/12/2004	26/01/2005	10/03/2005	18/04/2005	17/05/2005	27/06/2005	23/07/2005	16/08/2005	16/09/2005	29/10/2005	15/11/2005	08/12/2005
Time of measurement	-		12:01	0710hrs	10:30	14:30	09:00	09:20	09:20	09:00	7.11pm	11.25	4.55	10:51	9.45	8:01	10:50	11:20	11:59
Methane	% vol	0.9	<0.1	0.1	0.6	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	2.1	2.4	1.2	<0.1	2.6	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	9.8	0.1	0.6	19.2	20.4	<0.1	1.2	1	<0.1	<0.1	3.4	1.3	1.1	<0.1	1.2	7	3.7	1.9
Oxygen	% vol	16.5	20.6	20	0.3	0.5	20.6	14.5	18.6	20.7	15.2	17.4	11.5	13.5	10.3	19.5	14.5	18.2	18.9
Atmospheric Pressure	mbar	1009	1016	1005	1010	1009	1008	1005	1033	1020	1030	1010	1010	1019	1019	1005		1006	1017
Gas Pressure	mbar	0.0		3.2	<0.1	1	<0.1	2.6	1.4	0.1	1.1	2.1	<0.1	1.1	1.2	0		1	1.2
Gas Flow Rate	l/hr	0.1		2.7	2.7	2.7	3.9	2.2	<0.1	2.5	0.1	1.4	<0.1	0.1	0.2	<0.1		<0.1	0.4
Insitu Liquid Determinations																				
pH	pH units	6.4		6.5	6.6	7.01	7.09	7.39	7.48	7.28	7.4	7.03	9.22	7.03		7.48		7.2	9.24
Electrical Conductivity	µS/cm	7055		7000	6987	9890	7120	10930	8180	11550	8210	5410	7290	5410		9120		7010	6160
Dissolved Oxygen	mg/l	7.18		7.2	7.21	24	19.6	12.9	13.4	10.1	11.1	7.9	11.9	7.9		4.21		5.13	7.04
Temperature	℃	15.6		14.8	13.9	13.9	12.1	12	11.2	12.3	10	10	10	10		15.4		10.1	12
Comment			Unable to sample, no water tube																



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N22																								
Type Of Sample Required	Leachate	10/01/06	10/02/06	21/03/06	12/04/06	05/05/06	08/06/06	14/07/06	11/08/06	11/09/06	05/10/06	09/11/06	07/12/06	11/01/07	08/02/07	12/03/07	23/04/07	16/05/07	11/06/07	23/07/07	09/08/07	10/09/07	15/10/07	14/11/07	13/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	6.37	6.83	5.21	6.24	6.24	5.50	7.10	8.06	8.74	8.69	9.17	7.86	7.86	7.34	3.61	3.60	5.39	6.33	6.57	6.45	7.08	8.00	7.98	8.00
Borehole depth to top of casing	m	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22
Top of casing relative to Ordnance Datum Level	m	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68
Water level relative to Ordnance Datum	m	20.31	19.85	21.47	20.44	20.44	21.18	19.58	18.62	17.94	17.99	17.51	18.82	18.82	19.34	23.07	23.08	21.29	20.35	20.11	20.23	19.60	18.68	18.70	18.68
Calculated purge volume	litres							120.00	60.00	64.00	64.00	64.00	118.00	114.88	122.00	150.00	150.00	134.00	128.00	124.00	125.00	120.00	110.00	110.00	112.00
Base of Well relative to Ordnance Datum		4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46
Gas Concentrations																									
Date monitored	-	10/01/2006	10/02/2006	21/03/2006	12/04/2006	05/05/2006	08/06/2006	14/07/2006	11/08/2006	11/09/2006	05/10/2006	09/11/2006	07/12/2006	11/01/2007	08/02/2007	12/03/2007	23/04/2007	16/05/2007	11/06/2007	23/07/2007	09/08/2007	10/09/2007	15/10/2007	14/11/2007	13/12/2007
Time of measurement	-	12:13	10:47	11:54	12:15	15:58	11:38	10:21	10:40	12:15	11:40	11:50	10:40	15:45	15:15	12:30	11:00	14:10	10:00	10:07	10:15	13:50	10:30	10:30	13:30
Methane	% vol	0.3	0.00	0.00	0.0	0.0	0.0	0.0	0.1	0.2	0	0.2	0.2	0	0	0.1	0.2	0	0	0.1	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	6	4.70	5.00	4.7	6.4	5.6	1.6	3.3	16.7	14.6	1.8	8.1	5.2	5.9	3.6	4.1	5.9	6.3	7.0	7.0	6.7	6.2	6.4	5.5
Oxygen	% vol	12.2	18.60	16.60	17.1	16.8	17.2	19.7	15.9	3.4	5.4	20.1	12.7	17.8	18.1	18.4	18.2	17.1	14.4	12.1	13.5	15.4	15.8	16.9	17.2
Atmospheric Pressure	mbar	998	1021	1013	1001	1012	1017	1028	1007	1007	1006	1024	965	977	992	1009	1002	1004	1012	1000	1016	1013	999	1009	1026
Gas Pressure	mbar	4.7	<0.1	1.9	0.7	0.4	0.7	2.8	1.7	4.3	2.1	1.3	0.3	1.2	0.2	1.5	1.1	1.6	4.2	0.7	<0.1	<0.1	<0.1	<0.1	+0.8
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations														16:05											
pH	pH units	6.9	6.75	5.59	6.23	5.74	6.42	6.73	6.72	6.35	6.2	6.62	6.62	6.41	6.5	6.26	6.29	6.56	6.31	6.62	6.47	6.97	6.83	6.71	6.26
Electrical Conductivity	µS/cm	3970	5040	912	3620	1235	2779	5480	1920	20080	1764	3650	10810	1376	1376	644	683	4460	2643	5560	4770	2900	5020	4730	806
Dissolved Oxygen	mg/l	6.42	3.1	8.08	7.25	8.94	6.05	3.02 - 0	21.19	0	0	1.83	0.13	1.98	1.24	1.89	1.61	1.91	2.49	1.73	1.2	2.04	6.69	6.2	6.57
Temperature	℃	13.1	13.4	12	12.5	13.2	14.1	15.3	13.5	14.1	13.8	12.7	13	13.8	14.5	13.2	13.1	14.6	14.4	14.9	14.7	14.4	14.1	13.9	14.6
Comment			No cover/ Purged liquid was clear then dark brown then clear	No cover/ Purged liquid was clear then dark brown then clear	No cover/ Purged liquid was clear then dark brown then clear	No cover/ Purged liquid was clear then dark brown then clear	No cover/ Purged liquid was clear then dark brown then clear	Purged liquid was clear then dark brown then clear	Purged liquid was clear then dark brown then clear	Purged liquid was clear then dark brown then clear	Purged liquid was clear then dark brown then clear	Purged liquid was clear then dark brown then clear													



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N22**																								
Type Of Sample Required	Leachate	15/01/08	18/02/08	07/03/08	22/04/08	29/05/08	18/06/08	24/07/08	20/08/08	24/09/08	21/10/08	28/11/08	19/12/08	29/01/09	26/02/09	23/03/09	29/04/09	28/05/09	22/06/09	31/07/09	26/08/09	30/09/09	29/10/09	30/11/09	18/12/09
Determinand	Units																								
Water Level																									
Water level to top of casing	m	7.72	7.86	4.35	5.29	5.88	6.50	7.60	8.05	8.14	8.12	7.94	7.91	4.38	3.12	3.70	4.20	5.92	6.75	6.84	7.63	5.88	4.75	4.62	3.98
Borehole depth to top of casing	m	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22
Top of casing relative to Ordnance Datum Level	m	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68
Water level relative to Ordnance Datum	m	18.96	18.82	22.33	21.39	20.80	20.18	19.08	18.63	18.54	18.56	18.74	18.77	22.30	23.56	22.98	22.48	20.76	19.93	19.84	19.05	20.80	21.93	22.06	22.70
Calculated purge volume	litres	116.00	115	143	135	131	126	117	113	113	112.80	114.24	114.48	142.72	152.80	148.16	144.16	130.40	123.76	123.04	116.72	130.72	139.76		145.92
Base of Well relative to Ordnance Datum		4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46
Gas Concentrations																									
Date monitored	-	15/01/08	18/02/2008	07/03/2008	22/04/2008	29/05/2008	18/06/2008	24/07/2008	20/08/2008	24/09/2008	21/10/08	28/11/08	19/12/08	29/01/09	26/02/09	23/03/09	29/04/09	28/05/09	22/06/09	31/07/09	26/08/09	30/09/09	29/10/09		18/12/09
Time of measurement	-	15:00	11:15	14:20				00:00	14:52	14:38	16.42	14.56	15.45	11.03	14.31	14.51	14.21	13.17	12.14	0.00	14.46	14.02	12.58		11.40
Methane	% vol	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00
Carbon Dioxide	% vol	6.2	6.7	14.4	17.8	6.4	6.3	5.7	6.9	6.3	6.30	8.80	9.60	20.20	5.50	25.50	6.10	8.00	7.10	0.00	7.60	7.20	0.60		1.10
Oxygen	% vol	17.0	16.8	17.0	12.1	17.2	17.6	17.9	15.8	16.0	18.10	17.60	15.80	15.00	18.70	16.00	18.20	16.80	16.00	21.00	14.70	15.30	19.90		20.90
Atmospheric Pressure	mbar	978	990	990	1013	1006	991	1009	993	1022	996.00	998.00	1004.00	1019.00	1013.00	1009.00	1009.00	1023.00	1024.00	1010.00	996.00	1014.00	1018.00		1017.00
Gas Pressure	mbar	+0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	2.12	1.54	0.00	0.01	0.01	0.00	0.00	0.12	0.03	0.10	0.04	0.01		0.02
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1		0.01
Insitu Liquid Determinations																									
pH	pH units	6.18	6.36	5.78	6.8	7	7.2	7			8.25	8		5.23	6.08										
Electrical Conductivity	µS/cm	948	923	630	2017	3690	4330	2670			1911	2590		939	917										
Dissolved Oxygen	mg/l	5.92	6.05	4.19							0.06			0.86	0.53										
Temperature	℃	13.8	14.4	13.6	9	12	13	12			12.71	10		12.32	12.12										
Comment																							Gas analysis lost		

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N22**									(Sept mon)			(Dec Mon)												
Type Of Sample Required	Leachate	01/02/10	23/02/10	24/03/10	27/04/10	05/05/10	08/06/10	21/07/10	02/08/10	19/10/10	27/10/10	15/11/10	13/01/11	26/01/11	22/02/11	01/04/11	26/04/11	30/05/11	23/06/11	20/07/11	18/08/11	06/09/11	06/10/11	02/11/11	05/12/11
Determinand	Units																								
Water Level																									
Water level to top of casing	m		3.41	3.66	4.11	4.30	5.43	7.04	7.22	7.52	7.60		3.79	3.92			5.41	7.18	7.89	7.90	7.40	6.81	7.60	7.78	8.04
Borehole depth to top of casing	m	22.22	22.15	16.40	8.51	22.10	22.12	22.15	22.23	8.40	8.28		15.22	8.45						11.65	10.17		10.27	22.33	21.83
Top of casing relative to Ordnance Datum Level	m	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68		26.68	26.68			26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68
Water level relative to Ordnance Datum	m		23.27	23.02	22.57	22.38	21.25	19.64	19.46	19.16	19.08		22.89	22.76			21.27	19.50	18.79	18.78	19.28	19.87	19.08	18.90	18.64
Calculated purge volume	litres	177.76	177.76	177.76																					
Base of Well relative to Ordnance Datum		4.46	4.53	10.28	18.17	4.58	4.56	4.53	4.45	18.28	18.40		11.46	18.23						15.03	16.51		16.41	4.35	4.85
Gas Concentrations																									
Date monitored	-	01/02/10	23/02/10	24/03/10	27/04/10	05/05/10	08/06/10	21/07/10	02/08/10	19/10/10	27/10/10		12/01/11	26/01/11	22/02/11	01/04/11	26/04/11	30/05/11	23/06/11	20/07/11	18/08/11	06/09/11	06/10/11	02/11/11	05/12/12
Time of measurement	-	11.54	15:25	09:25	10:18	10:55	12:53	11:04	15:44	13:00	12:30		10:10	13:17	14:30	14:20	10:29	16:19	11:28	10:40	11:42	15:40	11:08	10:44	10:03
Methane	% vol	0.00	6.0	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	1.0	0.7		<0.1	1.5	<0.1	1.8	0.3	<0.1	0.5	0.3	0.1	6.6	0.1	0.1	<0.1
Carbon Dioxide	% vol	0.70	2.8	9.9	11.7	2.2	7.2	16.5	8.6	10.4	13.2		10.0	5.9	6.6	4.7	12.1	4.3	7.6	6.4	6.3	23.0	16.1	19.1	12.9
Oxygen	% vol	21.20	19.1	18.1	17.9	20.7	17.7	11.3	16.0	14.7	12.1		18.6	10.3	8.3	16.1	12.1	17.8	15.9	12.1	13.1	7.8	7.7	0.4	10.7
Atmospheric Pressure	mbar	1013.00	994	1000	1018	1016	1005	996	1015	999	1001		1000	1017	1010	1001	1028	1005	1009	1008	1015	981	992	1001	994
Gas Pressure	mbar	-0.04	-0.03	0.03	+/-0.01	-0.01	-0.01	0.07	-0.04	-0.07	0.04		-0.07	0.12	0.56	-0.1	0.06	0	0.00	-0.14	-0.02	0.01	-0.25	-0.04	<0.1
Gas Flow Rate	l/hr	0.10	-1.3	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1		+/-0.1	-0.2	-1.4	0.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.4
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment												Visit not undertaken due to adverse weather												

Ness Farm Landfill
Field Monitoring Sheet

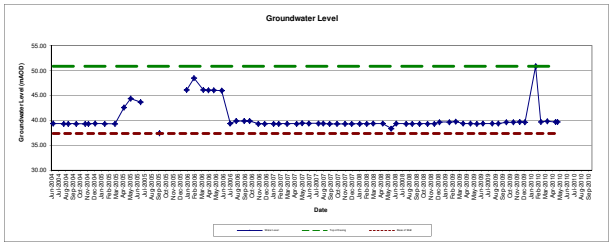
Sampling Location	**N22**																								
Type Of Sample Required	Leachate	12/01/12	01/02/12	02/03/12	03/04/12	02/05/12	07/06/12	11/07/12	02/08/12	05/09/12	03/10/12	08/11/12	13/12/12	15/01/13	06/02/13	12/03/13	16/04/13	09/05/13	04/06/13	04/07/13	06/08/13	04/09/13	02/10/13	05/11/13	12/12/13
Determinand	Units																								
Water Level																									
Water level to top of casing	m	7.93	8.36	8.18	8.50	8.70	8.33	4.80	3.70	3.35	4.78	3.94	4.50	3.85	3.75	4.74	6.52	7.47	8.09	8.45	8.85	9.08	9.23	8.45	7.74
Borehole depth to top of casing	m	22.12	22.17	22.10	22.50	22.38	22.12	22.20	22.10	22.15	22.02	22.05	21.98	22.02	21.99	21.91	22	21.99	22	21.9	21.99	21.88	21.99	21.9	21.87
Top of casing relative to Ordnance Datum Level	m	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68
Water level relative to Ordnance Datum	m	18.75	18.32	18.50	18.18	17.98	18.35	21.88	22.98	23.33	21.90	22.74	22.18	22.83	22.93	21.94	20.16	19.21	18.59	18.23	17.83	17.60	17.45	18.23	18.94
Calculated purge volume	litres																								
Base of Well relative to Ordnance Datum		4.56	4.51	4.58	4.18	4.30	4.56	4.48	4.58	4.53	4.66	4.63	4.70	4.66	4.69	4.77	4.68	4.69	4.68	4.78	4.69	4.80	4.69	4.78	4.81
Gas Concentrations																									
Date monitored	-	02/02/12	13/01/12	02/03/12	03/04/12	02/05/12	07/06/12	11/07/12	02/08/12	05/09/12	03/10/12	08/11/12	13/12/12	15/01/13	06/02/13	12/03/13	16/04/13	09/05/13	04/06/13	04/07/13	06/08/13	04/09/13	02/10/13	05/11/13	12/12/13
Time of measurement	-	10:36	10:13	11:32	11:06	12:30	14:12	11:48	14:46	13:50	15:15	11:22	13:55	13:39	14:22	15:43	13:04	14:55	11:06	13:08	12:30	12:30	10:18	13:15	12:14
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	0.9	1.1	0.7	0.7	0.1	<0.1	0.1	0.1	<0.1	0.2	<0.1	0.1	0.8	<0.1	0.1	0.3	<0.1	<0.1	0.1
Carbon Dioxide	% vol	0.1	6.4	11.1	12.1	12.4	17.4	17.1	13.7	9.8	11.8	3.2	0.1	3.0	0.2	3.7	0.5	3.1	11.9	6	7.9	14	2.8	3.2	0.5
Oxygen	% vol	21.0	16.4	9.4	8.8	3.9	3.7	1.3	8.3	11.7	10.4	17.9	20.7	18.8	21.3	17.5	19.9	17.5	7.7	15.7	12.1	2	19.3	17.6	20.6
Atmospheric Pressure	mbar	1017	1039	1024	1009	1027	997	1006	1002	1023	991	1006	1006	1014	1011	1012	992	997	1021	1005	1008	1013	1010	987	1010
Gas Pressure	mbar	0.08	0.03	0.03	-0.09	-0.11	-0.17	-0.01	-0.26	-0.03	0.11	0.35	-0.09	-0.03	-0.05	-0.1	-0.04	-0.09	0.19	0.07	-0.16	-0.03	0.2	0.19	-0.1
Gas Flow Rate	l/hr	-0.2	-0.2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment							Very soft sediment at base of borehole. No cover present.	Very soft sediment. No cover.	Very soft sediment at base of borehole, no cover present	Very soft sediment at base of borehole. No cover present.		Borehole head replaced.													

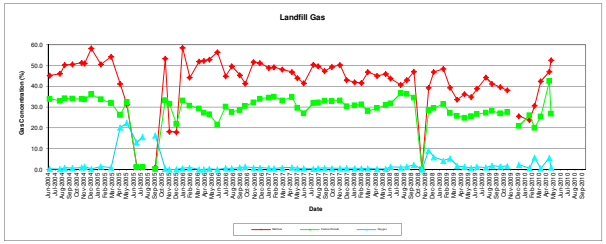
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N22**															
Type Of Sample Required	Leachate	08/01/14	04/02/14	05/03/14	02/04/14	07/05/14	05/06/14	02/07/14	05/08/14	03/09/14	08/10/14	04/11/14	11/12/14	08/06/15	07/12/15	29/06/16
Determinand	Units															
Water Level																
Water level to top of casing	m	5.62	3.22	3.86	4.91	6.66	7.77	8.42	8.98	9.24	9.22	6.44	4.19	8.38	5.78	6.61
Borehole depth to top of casing	m	21.88	21.99	22	21.99	21.98	21.96	22	21.98	21.9	21.98	21.97	22.02	21.94	22.19	22.25
Top of casing relative to Ordnance Datum Level	m	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68	26.68
Water level relative to Ordnance Datum	m	21.06	23.46	22.82	21.77	20.02	18.91	18.26	17.70	17.44	17.46	20.24	22.49	18.30	20.90	20.07
Calculated purge volume	litres															
Base of Well relative to Ordnance Datum		4.80	4.69	4.68	4.69	4.70	4.72	4.68	4.70	4.78	4.70	4.71	4.66	4.74	4.49	4.43
Gas Concentrations																
Date monitored	-	08/01/14	04/02/14	05/03/14	02/04/14	07/05/14	05/06/14	02/07/14	05/08/14	03/09/14	08/10/14	04/11/14	11/12/14	08/06/15	07/12/15	29/06/16
Time of measurement	-	12:58	09:57	15:31	10:34	15:00	10:50	10:45	14:26	13:12	15:13	11:08	10:54	10:52	14:27	11:46
Methane	% vol	<0.1	0.1	<0.1	<0.1	0.3	1.1	0.6	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	5.7	0.1	0.2	9.4	4.3	16.4	19.8	13	12	4.1	8.1	0.6	1.5	3.8	3.9
Oxygen	% vol	15.6	21.2	20.8	9.9	16.4	6.1	1	7.5	7	11.7	12.9	20.8	18.8	17.4	13.5
Atmospheric Pressure	mbar	1001	989	1012	1006	996	1004	1012	1013	1020	991	990	986	1035	1013	998
Gas Pressure	mbar	-0.1	-0.08	-0.08	-0.07	-0.37	-0.15	0.35	-0.27	-0.19	-0.1	0.14	0.11	0.18	-0.07	<0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	0.1	0.1
Insitu Liquid Determinations																
pH	pH units															
Electrical Conductivity	µS/cm															
Dissolved Oxygen	mg/l															
Temperature	℃															16.6
Comment																

Ness Farm Landfill
Field Monitoring Sheet

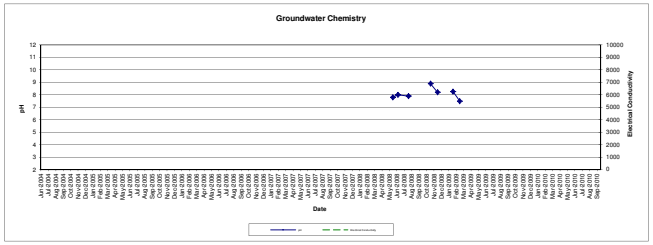
Sampling Location	N23																					
Type Of Sample Required	None	22/06/04	05/08/04	25/08/04	27/09/04	05/11/04	18/11/04	16/12/04	26/01/05	11/03/05	18/04/05	17/05/05	28/06/05	23/07/05	16/08/05	16/09/05	28/10/05	15/11/05	15/12/05	10/01/06	10/02/06	22/03/06
Determinand	Units																					
Water Level																						
Water level to top of casing	m	11.48	11.50	11.52	11.52	11.53	11.51	11.48	11.52	11.54	8.28	6.50	7.20			13.40				4.76	2.37	4.77
Borehole depth to top of casing	m	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50
Top of casing relative to Ordnance Datum Level	m	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83
Water level relative to Ordnance Datum	m	39.35	39.33	39.31	39.31	39.30	39.32	39.35	39.31	39.29	42.55	44.33	43.63			37.43				46.07	48.46	46.06
Calculated purge volume	litres																					
Base of Well relative to Ordnance Datum		37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33
Gas Concentrations																						
Date monitored	-	22/06/2004	05/08/2004	25/08/2004	27/09/2004	05/11/2004	18/11/2004	16/12/2004	26/01/2005	11/03/2005	18/04/2005	17/05/2005	28/06/2005	23/07/2005	16/08/2005	16/09/2005	28/10/2005	15/11/2005	15/12/2005	10/01/2006	10/02/2006	22/03/2006
Time of measurement	-		13:00	0715hrs	10:30	12:05	09:30	09:00	13:10	10:00	8.21pm	12.00	8.00	11:26		8:21	10:24	11:28	15:35	12:03	12:29	15:07
Methane	% vol	45.1	46	50.2	50.4	51.3	50.9	58.1	50.4	54.2	41.1	31.1	1.6	1.3		1.1	53.2	18.2	17.9	58.5	44.10	51.90
Carbon Dioxide	% vol	33.9	32.9	34.1	34	33.8	33.7	36.1	33.7	31.8	26.2	32.3	1.1	1.1		0.1	33.3	31.5	21.8	33.1	30.60	29.30
Oxygen	% vol	0.3	0.1	0.8	0.6	0.9	1.3	0.2	1.4	0.9	20.1	22.3	12.9	15.5		16.3	0.3	<0.1	<0.1	0.5	0.80	0.00
Atmospheric Pressure	mbar	1004	1015	1001	1007	1011	1011	974	1031	1020	1028	1010	1010	1019		1005	990	1003	1005	995	1017	1006
Gas Pressure	mbar	0.1		<0.1	<0.1	1.2	1.4	0.7	1.3	1.1	1.2	0.1	1.1	2.3		1.2		1.6	1.8	0.1	0.2	1.5
Gas Flow Rate	l/hr	0.8		2.8	2.6	2.6	2.6	<0.1	2.4	1.8	1.4	<0.1	0.1	1.1		0.1		0.2	0.1	<0.1	0.2	0.2
Insitu Liquid Determinations																						
pH	pH units																					
Electrical Conductivity	µS/cm																					
Dissolved Oxygen	mg/l																					
Temperature	°C																					
Comment																			Depth not recorded		Lid Broken off	Lid Broken off





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N23																										
Type Of Sample Required	None	12/04/06	05/05/06	08/06/06	14/07/06	09/08/06	12/09/06	05/10/06	10/11/06	07/12/06	15/01/07	06/02/07	13/03/07	23/04/07	16/05/07	13/06/07	24/07/07	13/08/07	10/09/07	11/10/07	14/11/07	13/12/07	16/01/08	14/02/08	13/03/08	22/04/08
Determinand	Units																										
Water Level																											
Water level to top of casing	m	4.81	4.81	4.89	11.45	10.98	10.98	10.98	11.50	11.50	11.50	11.52	11.50	11.50	11.42	11.45	11.44	11.47	11.55	11.53	11.55	11.53	11.50	11.51	11.49	11.48
Borehole depth to top of casing	m	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50
Top of casing relative to Ordnance Datum Level	m	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83
Water level relative to Ordnance Datum	m	46.02	46.02	45.94	39.38	39.85	39.85	39.85	39.33	39.33	39.33	39.31	39.33	39.33	39.41	39.38	39.39	39.36	39.28	39.30	39.28	39.30	39.33	39.32	39.34	39.35
Calculated purge volume	litres																					0.00	9.00	16	16	16
Base of Well relative to Ordnance Datum		37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33
Gas Concentrations																											
Date monitored	-	12/04/2006	05/05/2006	08/06/2006	14/07/2006	09/08/2006	12/09/2006	05/10/2006	10/11/2006	07/12/2006	15/01/2007	06/02/2007	13/03/2007	23/04/2007	16/05/2007	13/06/2007	24/07/2007	13/08/2007	10/09/2007	11/10/2007	14/11/2007	13/12/2007	16/01/2008	14/02/2008	13/03/2008	22/04/2008
Time of measurement	-	11:55	15:38	12:00	16:43	15:20	13:18	15:00	10:55	14:00	12:40	14:30	14:40	11:35	13:15	12:30	15:39	14:15	13:10	15:40	12:30	14:20	11:15	14:15	14:40	
Methane	% vol	52.2	52.8	56.3	44.8	49.5	45.3	41.2	51.6	51.1	48.7	49.1	48	46.8	43.8	41.4	50.3	49.6	47.3	49.2	50.2	43.0	41.8	41.6	46.7	45
Carbon Dioxide	% vol	27.2	26.4	21.5	30.2	27.6	28.5	30.5	32.1	33.9	34.5	35	33.1	34.7	29.6	27	31.8	32.1	33.0	32.8	33.1	30.3	30.8	31.2	28.0	29.5
Oxygen	% vol	0.0	0.3	0.0	0.6	0.4	0.9	1.2	0.8	0.8	0.6	0.4	0.8	0.9	0.5	0.4	0.3	0.5	0.7	0.5	0.5	0.6	0.5	0.4	0.4	0.2
Atmospheric Pressure	mbar	996	1008	1012	1022	997	998	999	1010	959	975	996	1012	1000	1000	1001	998	990	1010	1008	1007	1023	987	1004	994	1010
Gas Pressure	mbar	1.1	1.3	0.8	4.8	2.7	1.2	3.4	4.3	0.3	0.6	0.4	0.7	0.5	2.5	2.1	-0.9	<0.1	<0.1	<0.1	<0.1	-4.2	-3.2	-2.2	-0.3	-3.3
Gas Flow Rate	l/hr	0.2	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.8	<0.1	<0.1
Insitu Liquid Determinations																											
pH	pH units																										
Electrical Conductivity	µS/cm																										
Dissolved Oxygen	mg/l																										
Temperature	ºC																										
Comment		Lid Broken off	Lid Broken off	Lid Broken off	Lid Broken off	Lid Broken off				No Cover	No Cover	No Cover	No Cover	No Cover	No Cover	No Cover	No Cover	No Cover	No Cover	No Cover	No Cover	Insufficent Water to Purge	Insufficent Water to Purge	Insufficent Water to Purge	Insufficent Water to Purge	



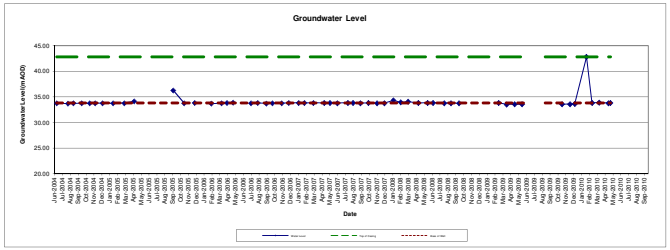
Ness Farm Landfill
Field Monitoring Sheet

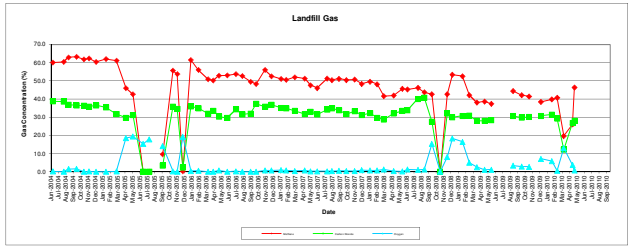
Sampling Location	N23																											
Type Of Sample Required	None	28/05/08	18/06/08	31/07/08	26/08/08	26/09/08	30/10/08	28/11/08	19/12/08	30/01/09	27/02/09	30/03/09	30/04/09	28/05/09	22/06/09	31/07/09	26/08/09	30/09/09	30/10/09	26/11/09	18/12/09	01/02/10	23/02/10	22/03/10	27/04/10	05/05/10	
Determinand	Units																											
Water Level																												
Water level to top of casing	m	12.47	11.49	11.51	11.52	11.52	11.52	11.51	11.19	11.20	11.11	11.47	11.49	11.56	11.49	11.48	11.49	11.21	11.22	11.17	11.20	0.00	11.12	11.02	11.16	11.15		
Borehole depth to top of casing	m	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	12.73	12.70	12.71	12.70		
Top of casing relative to Ordnance Datum Level	m	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83	50.83		
Water level relative to Ordnance Datum	m	38.36	39.34	39.32	39.31	39.31	39.31	39.32	39.64	39.63	39.72	39.36	39.34	39.27	39.34	39.35	39.34	39.62	39.61	39.66	39.63	50.83	39.71	39.81	39.67	39.68		
Calculated purge volume	litres	8	16	16	16	16	15.84	15.92	18.48	18.40	19.12	16.24	16.08	15.52	16.08	16.16	16.08	18.32	18.24		18.40							
Base of Well relative to Ordnance Datum		37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33	37.33		
Gas Concentrations																												
Date monitored	-	28/05/2008	18/06/2008	31/07/2008	26/08/2008	26/09/2008	30/10/08	28/11/08	19/12/08	30/01/09	27/02/09	30/03/09	30/04/09	28/05/09	22/06/09	31/07/09	26/08/09	30/09/09	30/10/09		18/12/09	01/02/10	23/02/10	22/03/10	27/04/10	40303.00			
Time of measurement	-			00:00	16:30	11:59	0.00	13.56	14.15	13.22	10.16	15.41	16.25	16.17	17.28		15.08	14.38	14.15		15.02	15.21	15:10	18:00	11:07	10:41			
Methane	% vol	45.8	43.7	40.6	42.9	47.0	0.00	39.20	46.80	48.30	39.20	33.50	36.10	34.80	38.70	44.10	41.10	39.50	38.00		25.60	23.70	30.6	42.3	46.9	52.4		
Carbon Dioxide	% vol	30.9	31.7	36.6	36.3	34.5	0.00	28.40	29.50	31.40	27.10	25.70	24.80	25.60	26.60	27.20	28.10	26.90	27.50		20.90	26.00	20.0	25.4	42.4	26.7		
Oxygen	% vol	0.3	1.2	1.0	1.2	2.2	0.00	9.10	5.90	4.20	5.30	1.70	1.20	0.70	1.20	0.90	1.80	1.40	1.60		2.20	0.60	5.7	0.4	5.6	0.9		
Atmospheric Pressure	mbar	1003	990	1000	996	1020	0.00	995.00	1003.00	1001.00	1012.00	1009.00	1008.00	1019.00	1022.00	1008.00	993.00	1012.00	1018.00		1015.00	1011.00	994	1000	1018	1016		
Gas Pressure	mbar	0.2	<0.1	<0.1	<0.1	<0.1	0.00	-0.01	0.81	0.45	-0.14	-1.86	-1.10	-6.62	1.25	0.05	0.09	0.04	0.05		0.64	1.17	0.09	+/-0.01	+/-0.01	+/-0.01		
Gas Flow Rate	l/hr	<0.1	0.3	<0.1	<0.1	<0.1	0.00	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1		<0.1	0.10	0.0	+/-0.1	+/-0.1	+/-0.1		
Insitu Liquid Determinations																												
pH	pH units	7.8	8	7.9			8.89	8.2		8.26	7.48																	
Electrical Conductivity	µS/cm	15300	16700	17200			20980	17100		17090	15130																	
Dissolved Oxygen	mg/l						1.19			0	0																	
Temperature	ºC	23	29	31			32.28	25		28.92	30.48																	
Comment							Equipment Failure													Gas analysis lost			H2S 215ppm		Bung and Tap taken, readings taken venting.	Bung and Tap taken, readings taken venting.		

Well removed as part of Phase 2 restoration works

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N24																					
Type Of Sample Required	Leachate	22/06/04	05/08/04	25/08/04	27/09/04	28/10/04	18/11/04	16/12/04	26/01/05	10/03/05	18/04/05	17/05/05	28/06/05	23/07/05	16/08/05	16/09/05	28/10/05	15/11/05	08/12/05	10/01/06	10/02/06	22/03/06
Determinand	Units																					
Water Level																						
Water level to top of casing	m	9.10	9.12	9.10	9.10	9.09	9.07	9.05	9.07	9.05	8.71	Dry	Dry	Dry		6.56	9.10	Dry	9.01	Dry	9.15	9.06
Borehole depth to top of casing	m	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01
Top of casing relative to Ordnance Datum Level	m	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84
Water level relative to Ordnance Datum	m	33.74	33.72	33.74	33.74	33.75	33.77	33.79	33.77	33.79	34.13					36.28	33.74		33.83		33.69	33.78
Calculated purge volume	litres	-2.16																				
Base of Well relative to Ordnance Datum		33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83
Gas Concentrations																						
Date monitored	-	22/06/2004	05/08/2004	25/08/2004	27/09/2004	28/10/2004	18/11/2004	16/12/2004	26/01/2005	10/03/2005	18/04/2005	17/05/2005	28/06/2005	23/07/2005	16/08/2005	16/09/2005	28/10/2005	15/11/2005	08/12/2005	10/01/2006	10/02/2006	22/03/2006
Time of measurement	-		12:32	00:00	10:40	15:00	09:35	09:30	13:20	09:40	7.45am	12.42	10.00	12:00		14:55	10:50	11:41	12:18	11:46	12:11	15:27
Methane	% vol	60.1	60.4	63	63.2	61.9	62.4	60.4	62	61.2	46.1	42.6	<0.1	<0.1		9.5	55.7	53.7	0.3	61.5	56.00	51.00
Carbon Dioxide	% vol	38.8	38.6	36.8	36.6	36.3	35.8	36.6	35.4	31.8	29.7	31.2	<0.1	<0.1		3.5	35.9	34.6	2.3	36	35.00	31.90
Oxygen	% vol	0.2	0.1	1.5	1.6	0.1	0.2	0.1	0.1	0.2	18.6	19.4	15.4	17.9		14.2	0.3	<0.1	19.2	0.5	0.60	0.00
Atmospheric Pressure	mbar	1004	1016	1006	1007	1010	1011	974	1031	1020	1030	1010	1010	1019		1005	992	1004	1015	997	1018	1007
Gas Pressure	mbar	0.3		4.6	3.4	3.3	3.3	0.9	3	1.2	0.1	<0.1	0.1	<0.1		0		0.2	2.7	2.3	0.2	1
Gas Flow Rate	l/hr	1.4		2.8	2.7	2.9	2.9	<0.1	<0.1	1.8	0.1	<0.1	0.1	<0.1		<0.1		0.3	<0.1	0.3	0.1	0.2
Insitu Liquid Determinations																						
pH	pH units															4.48						
Electrical Conductivity	µS/cm															1241						
Dissolved Oxygen	mg/l															17.5						
Temperature	ºC															13						
Comment		Insufficient sample	Insufficient to sample	Insufficient sample	Insufficient Sample		Insufficient sample	Insufficient sample	Insufficient sample	Insufficient sample	Insufficient sample										Insufficient sample	





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N24																								
Type Of Sample Required	Leachate	12/04/06	05/05/06	08/06/06	14/07/06	09/08/06	12/09/06	05/10/06	10/11/06	07/12/06	15/01/07	06/02/07	13/03/07	23/04/07	16/05/07	13/06/07	24/07/07	13/08/07	10/09/07	11/10/07	14/11/07	13/12/07	16/01/08	14/02/08	13/03/08
Determinand	Units																								
Water Level																									
Water level to top of casing	m	9.03	8.97	DRY	9.08	9.02	9.11	9.07	9.04	9.01	8.99	9.00	8.98	9.00	9.02	9.04	8.98	8.99	9.05	9.03	9.08	9.04	8.53	8.89	8.78
Borehole depth to top of casing	m	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01
Top of casing relative to Ordnance Datum Level	m	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84
Water level relative to Ordnance Datum	m	33.81	33.87		33.76	33.82	33.73	33.77	33.80	33.83	33.85	33.84	33.86	33.84	33.82	33.80	33.86	33.85	33.79	33.81	33.76	33.80	34.31	33.95	34.06
Calculated purge volume	litres			0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	1	2
Base of Well relative to Ordnance Datum		33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83
Gas Concentrations																									
Date monitored	-	12/04/2006	05/05/2006	08/06/2006	14/07/2006	09/08/2006	12/09/2006	05/10/2006	10/11/2006	07/12/2006	15/01/2007	06/02/2007	13/03/2007	23/04/2007	16/05/2007	13/06/2007	24/07/2007	13/08/2007	10/09/2007	11/10/2007	14/11/2007	13/12/2007	16/01/2008	14/02/2008	13/03/2008
Time of measurement	-	11:41	15:22	12:16	16:17	15:38	13:31	15:20	11:23	13:40	13:00	14:50	14:20	11:55	13:35	13:25	15:17	14:25	13:23	15:25	12:00	15:35	12:15	15:30	15:35
Methane	% vol	50.2	52.9	53.1	53.7	52.7	49.6	48.3	56.1	52.6	51.1	50.6	52.1	51.3	47.7	46.1	51.3	50.5	51.2	50.5	50.8	48.4	49.6	48.2	41.6
Carbon Dioxide	% vol	33.6	30.4	29.6	34.4	31.6	32	37.4	35.8	36.8	35.2	34.9	33.5	31.7	33	31.6	34.2	34.9	33.9	31.7	33.3	31.2	32.3	29.7	28.7
Oxygen	% vol	0.0	0.7	0.0	0.3	0	0	0	0.8	0.8	0.9	0.7	0.5	0.8	0.3	0.3	0.3	0.4	0.6	0.5	0.4	0.9	0.7	0.8	1.3
Atmospheric Pressure	mbar	997	1009	1013	1023	998	998	999	1010	961	976	997	1012	1000	1001	1001	998	990	1010	1008	1007	1023	987	1004	994
Gas Pressure	mbar	0.8	0.6	0.7	0.2	0.3	<0.1	<0.1	1.3	<0.1	<0.1	<0.1	<0.1	<0.1	1.8	1.5	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr	0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.7	0.2	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	ºC																								
Comment						Insufficient sample	insufficient liquid to obtain sample	insufficient liquid to obtain sample	insufficient liquid to obtain sample	insufficient liquid to obtain sample	insufficient liquid to obtain sample		Insufficient water to purge	Insufficient water to purge	Insufficient water to purge	Insufficient water to purge	Insufficient water to purge	Insufficient water to purge	Insufficient water to purge	Insufficient water to purge	Insufficient water to purge	Insufficient water to purge	Insufficient water to purge	Insufficient water to purge	Insufficient water to purge

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N24	
Type Of Sample Required	Leachate	22/04/08
Determinand	Units	
Water Level		
Water level to top of casing	m	9.02
Borehole depth to top of casing	m	9.01
Top of casing relative to Ordnance Datum Level	m	42.84
Water level relative to Ordnance Datum	m	33.82
Calculated purge volume	litres	0
Base of Well relative to Ordnance Datum		33.83
Gas Concentrations		
Date monitored	-	22/04/2008
Time of measurement	-	
Methane	% vol	41.9
Carbon Dioxide	% vol	32.1
Oxygen	% vol	0.4
Atmospheric Pressure	mbar	1010
Gas Pressure	mbar	<0.1
Gas Flow Rate	l/hr	<0.1
Insitu Liquid Determinations		
pH	pH units	
Electrical Conductivity	µS/cm	
Dissolved Oxygen	mg/l	
Temperature	ºC	
Comment		Insufficient water to purge

Ness Farm Landfill
Field Monitoring Sheet

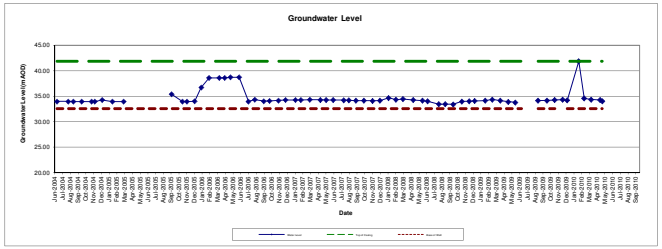
Sampling Location	**N24**																								
Type Of Sample Required	Leachate	28/05/08	18/06/08	31/07/08	26/08/08	26/09/08	30/10/08	28/11/08	19/12/08	30/01/09	27/02/09	30/03/09	30/04/09	28/05/09	22/06/09	31/07/09	26/08/09	30/09/09	30/10/09	30/11/09	18/12/09	01/02/10	23/02/10	22/03/10	27/04/10
Determinand	Units																								
Water Level																									
Water level to top of casing	m	8.99	8.99	9.04	9.05	9.07	DRY	DRY	DRY	DRY	9.02	9.30	9.26	9.25			DRY	DRY	9.27	9.24	9.20	0.00	9.00	8.92	9.04
Borehole depth to top of casing	m	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01	9.01		9.01	9.01	9.01	9.01	9.01	9.01	9.36	9.35	9.35
Top of casing relative to Ordnance Datum Level	m	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84		42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84	42.84
Water level relative to Ordnance Datum	m	33.85	33.85	33.80	33.79	33.77					33.82	33.54	33.58	33.59					33.57	33.60	33.64	42.84	33.84	33.92	33.80
Calculated purge volume	litres	0	0	0	0	0						-2.32	-2.00	-1.92					-2.08		-1.52	72.08			
Base of Well relative to Ordnance Datum		33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83	33.83		33.83	33.83	33.83		33.83	33.83	33.83	33.83	33.83
Gas Concentrations																									
Date monitored	-	28/05/2008	18/06/2008	31/07/2008	26/08/2008	26/09/2008	30/10/08	28/11/08	19/12/08	30/01/09	27/02/09	30/03/09	30/04/09	28/05/09	22/06/09	31/07/09	26/08/09	30/09/09	30/10/09		18/12/09	01/02/10	23/02/10	22/03/10	27/04/10
Time of measurement	-			00:00	16:52	11:43	0.00	13.45	13.59	13.10	9.58	15.31	16.10	16.00			15.21	15.12	13.42		14.41	15.02	14:40	17:45	10:46
Methane	% vol	45.7	45.3	46.2	43.7	42.6	0.00	42.70	53.40	52.60	42.10	38.10	38.70	37.40			44.40	42.10	41.50		38.40	39.80	40.7	19.7	26.1
Carbon Dioxide	% vol	33.5	33.8	40.1	40.8	27.5	0.00	32.20	30.00	30.80	30.90	28.00	28.10	28.40			30.70	29.80	30.20		30.80	31.50	29.3	12.2	26.8
Oxygen	% vol	0.2	1.3	1.1	1.3	15.4	0.00	8.10	18.40	16.50	5.00	2.60	1.10	1.20			3.40	2.90	2.80		7.20	5.80	0.6	13.1	3.7
Atmospheric Pressure	mbar	1003	991	1000	997	1020	0.00	996.00	1004.00	1001.00	1013.00	1010.00	1008.00	1019.00			993.00	1012.00	1018.00		1015.00	1012.00	994	1000	1018
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1	0.1	0.00	0.15	1.82	1.12	0.11	0.01	0.02	0.11			0.38	0.21	0.23		0.03	0.16	0.00	+/-0.01	+/-0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	0.1	0.00	<0.1	<0.1	<0.1	0.20	0.20	<0.1	<0.1			<0.1	<0.1	<0.1		<0.1	0.10	0.0	+/-0.1	+/-0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment							Equipment Failure								Overgrown	Overgrown				Gas analysis lost					Bung and Tap taken, readings taken venting.

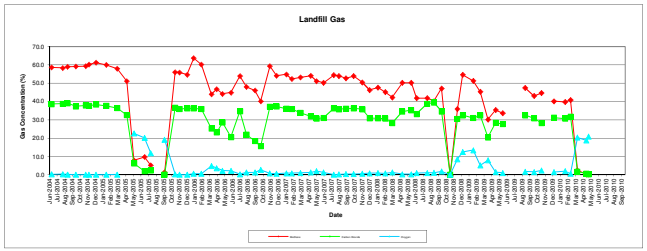
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N24**		Well removed as part of Phase 2 restoration works
Type Of Sample Required	Leachate	05/05/10	
Determinand	Units		
Water Level			
Water level to top of casing	m	9.03	
Borehole depth to top of casing	m	9.35	
Top of casing relative to Ordnance Datum Level	m	42.84	
Water level relative to Ordnance Datum	m	33.81	
Calculated purge volume	litres		
Base of Well relative to Ordnance Datum		33.83	
Gas Concentrations			
Date monitored	-	05/05/10	
Time of measurement	-	10:14	
Methane	% vol	46.4	
Carbon Dioxide	% vol	28.0	
Oxygen	% vol	0.8	
Atmospheric Pressure	mbar	1016	
Gas Pressure	mbar	+/-0.01	
Gas Flow Rate	l/hr	+/-0.1	
Insitu Liquid Determinations			
pH	pH units		
Electrical Conductivity	µS/cm		
Dissolved Oxygen	mg/l		
Temperature	℃		
Comment		Bung and Tap taken, readings taken venting.	

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N25a																					
Type Of Sample Required	None	22/06/04	05/08/04	25/08/04	27/09/04	05/11/04	18/11/04	16/12/04	26/01/05	11/03/05	18/04/05	17/05/05	28/06/05	23/07/05	16/08/05	16/09/05	28/10/05	15/11/05	15/12/05	10/01/06	10/02/06	22/03/06
Determinand	Units																					
Water Level																						
Water level to top of casing	m	7.87	7.87	7.89	7.90	7.91	7.92	7.58	7.92	7.91	Dry	Dry	Dry	Dry		6.44	7.90	7.90	7.85	5.13	3.26	3.24
Borehole depth to top of casing	m	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27
Top of casing relative to Ordnance Datum Level	m	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86
Water level relative to Ordnance Datum	m	33.99	33.99	33.97	33.96	33.95	33.94	34.28	33.94	33.95						35.42	33.96	33.96	34.01	36.73	38.60	38.62
Calculated purge volume	litres																					
Base of Well relative to Ordnance Datum		32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59
Gas Concentrations																						
Date monitored	-	22/06/2004	05/08/2004	25/08/2004	27/09/2004	05/11/2004	18/11/2004	16/12/2004	26/01/2005	11/03/2005	18/04/2005	17/05/2005	28/06/2005	23/07/2005	16/08/2005	16/09/2005	28/10/2005	15/11/2005	15/12/2005	10/01/2006	10/02/2006	22/03/2006
Time of measurement	-		13:09	1745hrs	10:50	12:10	09:45	09:40	13:40	10:10	8.39am	1.30	12.00	12:36		15:08	11:00	11:49	15:42	11:37	12:06	15:44
Methane	% vol	58.6	58.4	59	59.2	59.3	60.2	61.3	60.1	57.9	51.1	7.8	9.6	5.1		1.2	56.1	55.9	54.7	63.7	60.20	43.90
Carbon Dioxide	% vol	38.6	38.8	39.1	37.4	37.8	37.6	38.3	37.7	36.4	32.6	6.2	1.9	2.4		0.1	36.6	35.9	36.2	36.3	35.90	25.20
Oxygen	% vol	0.2	0.3	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1		22.6	20.1	11.7		19.2	0.2	<0.1	<0.1	0.5	0.60	4.80
Atmospheric Pressure	mbar	1004	1016	998	1007	1010	1010	975	1033	1020	1028	1012	1010	1019		1005	991	1001	1006	997	1018	1007
Gas Pressure	mbar	0.4		<0.1	<0.1	<0.1	<0.1	nil	<0.1	<0.1	0.1	0.1	<0.1	0.1		1.2					No Cap	No Cap
Gas Flow Rate	l/hr	1.3		2.7	2.6	2.6	2.7	nil	2.4	2.2	1.2	0.1	<0.1	<0.1		0.1					No Cap	No Cap
Insitu Liquid Determinations																						
pH	pH units																					
Electrical Conductivity	µS/cm																					
Dissolved Oxygen	mg/l																					
Temperature	℃																					
Comment		Venting, no gas tap	Venting, no gas tap														no cap	no cap	no valve	no valve	No Cap	No Cap





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N25a**																								
Type Of Sample Required	None	12/04/06	05/05/06	08/06/06	14/07/06	09/08/06	12/09/06	05/10/06	10/11/06	07/12/06	15/01/07	06/02/07	13/03/07	23/04/07	16/05/07	13/06/07	24/07/07	13/08/07	10/09/07	11/10/07	14/11/07	13/12/07	16/01/08	14/02/08	13/03/08
Determinand	Units																								
Water Level																									
Water level to top of casing	m	3.27	3.13	3.13	7.87	7.52	7.81	7.77	7.68	7.60	7.61	7.60	7.55	7.56	7.60	7.60	7.62	7.64	7.72	7.72	7.74	7.70	7.18	7.53	7.40
Borehole depth to top of casing	m	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27
Top of casing relative to Ordnance Datum Level	m	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86
Water level relative to Ordnance Datum	m	38.59	38.73	38.73	33.99	34.34	34.05	34.09	34.18	34.26	34.25	34.26	34.31	34.30	34.26	34.26	34.24	34.22	34.14	34.14	34.12	34.16	34.68	34.33	34.46
Calculated purge volume	litres																								
Base of Well relative to Ordnance Datum		32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59
Gas Concentrations																									
Date monitored	-	12/04/2006	05/05/2006	08/06/2006	14/07/2006	09/08/2006	12/09/2006	05/10/2006	10/11/2006	07/12/2006	15/01/2007	06/02/2007	13/03/2007	23/04/2007	16/05/2007	13/06/2007	24/07/2007	13/08/2007	10/09/2007	11/10/2007	14/11/2007	13/12/2007	16/01/2008	14/02/2008	13/03/2008
Time of measurement	-	11:35	15:15	12:32	16:30	15:50	13:37	15:30	11:32	13:30	13:10	15:00	14:10	12:05	13:45	13:55	15:27	14:35	13:31	15:10	12:15	15:25	12:25	15:15	15:45
Methane	% vol	46.7	44.2	44.9	53.9	48	46.1	40.2	59.3	54.1	54.9	52.3	53.2	54.1	51.2	50.2	54.4	54.0	52.7	53.9	50.5	46.3	47.6	45.2	42.3
Carbon Dioxide	% vol	23.1	28.5	20.6	34.7	21.9	18.4	15.6	37.1	37.3	36.1	35.9	33.8	31.9	30.6	31.1	36.2	35.8	36.1	36.3	35.8	30.9	30.8	30.6	28.2
Oxygen	% vol	3.6	2.2	2.1	0.3	1.3	1.3	2.6	0.7	0.5	0.8	0.8	1	1.2	1.9	1.2	0.0	0.2	0.4	0.4	0.5	0.8	0.9	0.7	1.2
Atmospheric Pressure	mbar	997	1009	1013	1023	998	998	999	1010	961	976	997	1012	1000	1004	1001	998	990	1010	1008	1007	1023	987	1004	994
Gas Pressure	mbar	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	5.2	3.3	1.6	1.1	0.9	0.3	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment		No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap																

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N25a																								
Type Of Sample Required	None	22/04/08	28/05/08	18/06/08	31/07/08	26/08/08	26/09/08	30/10/08	28/11/08	19/12/08	30/01/09	27/02/09	30/03/09	30/04/09	28/05/09	22/06/09	31/07/09	26/08/09	30/09/09	30/10/09	30/11/09	18/12/09	01/02/10	23/02/10	22/03/10
Determinand	Units																								
Water Level																									
Water level to top of casing	m	7.58	7.70	7.84	8.41	8.43	8.44	7.87	7.84	7.77	7.73	7.50	7.71	7.93	8.07			7.71	7.68	7.57	7.51	7.64	0.00	7.29	7.49
Borehole depth to top of casing	m	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27	9.27		9.27	9.27	9.27	9.27	9.27	9.27	8.68	8.67
Top of casing relative to Ordnance Datum Level	m	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86		41.86	41.86	41.86	41.86	41.86	41.86	41.86	41.86
Water level relative to Ordnance Datum	m	34.28	34.16	34.02	33.45	33.43	33.42	33.99	34.02	34.09	34.13	34.36	34.15	33.93	33.79			34.15	34.18	34.29	34.35	34.22	41.86	34.57	34.37
Calculated purge volume	litres				6.88	6.72	6.64	11.20	11.44	12.00	12.32	14.16	12.48	10.72	9.60			12.48	12.72	13.60		13.04	74.16		
Base of Well relative to Ordnance Datum		32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59	32.59		32.59	32.59	32.59		32.59	32.59	32.59	32.59
Gas Concentrations																									
Date monitored	-	22/04/2008	28/05/2008	18/06/2008	31/07/2008	26/08/2008	26/09/2008	30/10/08	28/11/08	19/12/08	30/01/09	27/02/09	30/03/09	30/04/09	28/05/09	22/06/09	31/07/09	26/08/09	30/09/09	30/10/09		18/12/09	01/02/10	23/02/10	22/03/10
Time of measurement	-				00:00	17:01	11:37	0.00	13.39	13.57	13.08	9.52	15.25	16.04	15.54			15.31	15.22	13.51		14.31	14.53	14:30	17:40
Methane	% vol	50.2	50.2	41.9	41.8	40.2	47.2	0.00	35.90	54.60	51.30	45.30	30.20	35.40	33.60			47.40	43.10	44.60		40.20	39.80	40.9	2.3
Carbon Dioxide	% vol	34.5	35.3	33.2	38.8	39.4	34.6	0.00	30.50	32.50	31.00	32.40	20.40	28.40	27.70			32.50	30.80	28.20		31.20	30.70	31.8	1.7
Oxygen	% vol	0.3	0.3	0.9	1.0	1.1	1.8	0.00	8.50	12.50	13.40	5.10	7.90	1.40	1.00			1.70	1.50	2.30		1.40	2.00	0.6	20.3
Atmospheric Pressure	mbar	1010	1003	991	1001	997	1020	0	996	1004	1001	1014	1010	1008.00	1019.00			993.00	1012.00	1018.00		1015.00	1012.00	994	1000
Gas Pressure	mbar	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.00	0.11	0.63	0.42	0.09	0.10	0.07	0.06			0.13	0.08	0.09		0.01	0.03	0.01	+/-0.01
Gas Flow Rate	l/hr	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.00	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			<0.1	<0.1	<0.1		0.04	-0.40	0.0	+/-0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment								Equipment Failure								Overgrown	Overgrown								

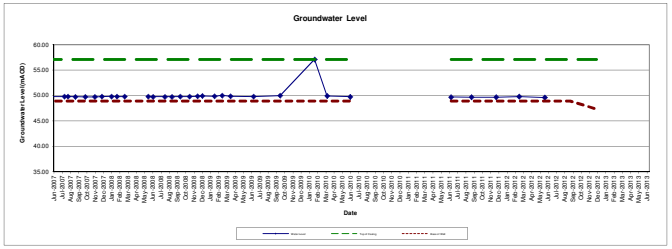
Ness Farm Landfill
Field Monitoring Sheet

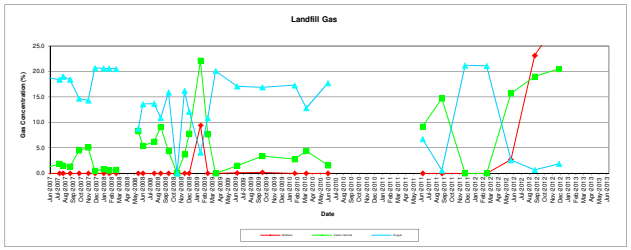
Sampling Location	N25a			
Type Of Sample Required	None	27/04/10	05/05/10	
Determinand	Units			
Water Level				
Water level to top of casing	m	7.61	7.84	
Borehole depth to top of casing	m	8.68	8.67	
Top of casing relative to Ordnance Datum Level	m	41.86	41.86	
Water level relative to Ordnance Datum	m	34.25	34.02	
Calculated purge volume	litres			
Base of Well relative to Ordnance Datum		32.59	32.59	
Gas Concentrations				
Date monitored	-	27/04/10	05/05/10	
Time of measurement	-	10:39	10:06	
Methane	% vol	0.3	0.2	
Carbon Dioxide	% vol	0.5	0.2	
Oxygen	% vol	18.8	20.9	
Atmospheric Pressure	mbar	1018	1016	
Gas Pressure	mbar	+/-0.01	+/-0.01	
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	
Insitu Liquid Determinations				
pH	pH units			
Electrical Conductivity	µS/cm			
Dissolved Oxygen	mg/l			
Temperature	℃			
Comment		Bung and Tap taken, readings taken venting.	Bung and Tap taken, readings taken venting.	

Well removed as part of Phase 2 restoration works

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N26																		
Type Of Sample Required	None	22/06/04	04/08/04	25/08/04	27/09/04	05/11/04	18/11/04	16/12/04	26/01/05	11/03/05	19/04/05	17/05/05	28/06/05	23/07/05	16/08/05	16/09/05	28/10/05	15/11/05	15/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	7.38	7.35	7.36	7.35	7.50	7.46	7.49	7.46	7.46	7.10	7.21	Dry	Dry	7.51	7.70	7.54	7.58	7.52
Borehole depth to top of casing	m	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20
Top of casing relative to Ordnance Datum Level	m	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08
Water level relative to Ordnance Datum	m	49.70	49.73	49.72	49.73	49.58	49.62	49.59	49.62	49.62	49.98	49.87			49.57	49.38	49.54	49.50	49.56
Calculated purge volume	litres																		
Base of Well relative to Ordnance Datum		48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88
Gas Concentrations																			
Date monitored	-	22/06/2004	04/08/2004	25/08/2004	27/09/2004	05/11/2004	18/11/2004	16/12/2004	26/01/2005	11/03/2005	19/04/2005	17/05/2005	28/06/2005	23/07/2005	16/08/2005	16/09/2005	28/10/2005	15/11/2005	15/12/2005
Time of measurement	-		11:09	1400hrs	10:55	09:45	09:50	12:50	13:50	10:20	9.21am	2.20	2.10	13:20	10.36	16:29	11:25	14:00	15:37
Methane	% vol	<0.1	<0.1	2.8	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	18.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	2.2	1.2	1.1	1	10.3	10.6	10	11.2	11.9	18.2	12.2	<0.1	0.1	<0.1	1.5	5.5	4.9	4.4
Oxygen	% vol	17.6	19.2	19.1	19.7	10.5	9.8	9.7	9.6	10.1	17.1	19.5	9.2	12.1	16.5	11.1	15	15.8	14.9
Atmospheric Pressure	mbar	1002	1011	1004	1007	1013	1010	971	1033	1019	1030	1018	1010	1019	1019	1005	990	1002	1004
Gas Pressure	mbar	0.0		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.4	<0.1	1.1	1.1	1.2	0			
Gas Flow Rate	l/hr	<0.1		2.6	2.7	2.6	2.6	1.6	2.4	2.2	2.3	<0.1	1.1	1.2	1.1	<0.1			
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment																	no cap	no cap	no valve





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N26**																							
Type Of Sample Required	None	10/01/06	09/02/06	20/03/06	11/04/06	03/05/06	08/06/06	14/07/06	09/07/06	11/09/06	05/10/06	07/11/06	05/12/06	10/01/07	07/02/07	06/03/07	18/04/07	21/05/07	07/06/07	25/07/07	08/08/07	04/09/07	10/10/07	15/11/07	11/12/07
Determinand	Units																							
Water Level																								
Water level to top of casing	m	7.47	7.46	7.35	7.26	7.24	7.22	7.31	7.28	7.40	7.40	7.48		7.49	7.48	7.47	7.49	7.29	7.30	7.30	7.30	7.31	7.33	7.34	7.28
Borehole depth to top of casing	m	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20
Top of casing relative to Ordnance Datum Level	m	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08
Water level relative to Ordnance Datum	m	49.61	49.62	49.73	49.82	49.84	49.86	49.77	49.80	49.68	49.68	49.60		49.59	49.60	49.61	49.59	49.79	49.78	49.78	49.78	49.77	49.75	49.74	49.80
Calculated purge volume	litres																								
Base of Well relative to Ordnance Datum		48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88
Gas Concentrations																									
Date monitored	-	10/01/2006	09/02/2006	20/03/2006	11/04/2006	03/05/2006	08/06/2006	14/07/2006	09/07/2006	11/09/2006	05/10/2006	07/11/2006	05/12/2006	10/01/2007	07/02/2007	06/03/2007	18/04/2007	21/05/2007	07/06/2007	25/07/2007	08/08/2007	04/09/2007	10/10/2007	15/11/2007	11/12/2007
Time of measurement	-	15:45	15:27	12:09	15:57	15:30	12:55	13:50	12:20	13:30	13:30	11:35	15:15	15:35	13:05	16:20	14:35	10:55	11:26	15:25	14:40	11:30	11:55	10:30	11:32
Methane	% vol	0.3	0.00	0.40	0.0	0.0	0.0	0.0	0	0	0	0.1	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	0.5	3.50	5.40	2.4	11.1	10.9	6.7	8.8	6.3	7.6	4	6.3	7.3	7.7	8.1	8.9	0.4	1.2	1.9	1.5	1.3	4.5	5.1	0.5
Oxygen	% vol	20.2	17.40	12.20	17.5	18.6	18.2	11.9	15.6	14.9	14.2	16.6	14	12.4	12.1	11.8	12.6	20.7	18.8	18.4	19.0	18.4	14.7	14.3	20.7
Atmospheric Pressure	mbar	989	1012	1013	987	999	1015	1021	999	1003	1001	1005	968	998	995	973	1003	1010	1016	994	1009	1018	1018	1013	1021
Gas Pressure	mbar		No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	2.4	2.1	1.8	1.2	0.7	3.7	2.1	1.4	0.4	0.1	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr		No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units												Cannot												
Electrical Conductivity	µS/cm												remove												
Dissolved Oxygen	mg/l												new												
Temperature	ºC												plug/ cap												
Comment		no valve	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap													

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N26**																	
Type Of Sample Required	None	15/01/08	05/02/08	04/03/08	22/04/08	30/05/08	17/06/08	31/07/08	26/08/08	26/09/08	30/10/08	28/11/08	16/12/08	30/01/09	27/02/09	30/03/09	23/06/09	30/09/09
Determinand	Units																	
Water Level																		
Water level to top of casing	m	7.25	7.28	7.30		7.29	7.31	7.32	7.31	7.30	7.26	7.24	7.17	7.20	7.06	7.22	7.30	7.11
Borehole depth to top of casing	m	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20
Top of casing relative to Ordnance Datum Level	m	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08	57.08
Water level relative to Ordnance Datum	m	49.83	49.80	49.78		49.79	49.77	49.76	49.77	49.78	49.82	49.84	49.91	49.88	50.02	49.86	49.78	49.97
Calculated purge volume	litres							7.04	7.12	7.20	7.52	7.68	8.24	8.00	9.12	7.84	7.20	8.72
Base of Well relative to Ordnance Datum		48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88	48.88
Gas Concentrations																		
Date monitored	-	15/01/2008	05/02/2008	04/03/2008	22/04/2008	30/05/2008	17/06/2008	31/07/2008	26/08/2008	26/09/2008	30/10/08	28/11/08	16/12/08	30/01/09	27/02/09	30/03/09	23/06/09	30/09/09
Time of measurement	-	15:45	16:15	12:45				00:00	16:03	18:57	0.00	13.24	15.41	13.31	11.07	14.16	14.33	15.46
Methane	% vol	0.0	0.0	0.0		0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	9.40	0.00	0.00	0.10	0.20
Carbon Dioxide	% vol	0.8	0.6	0.7		8.3	5.4	6.2	9.1	4.4	0.00	3.70	7.80	22.10	7.70	0.00	1.50	3.40
Oxygen	% vol	20.6	20.6	20.5		8.8	13.6	13.7	10.9	15.9	0.00	16.20	12.10	4.10	10.90	20.10	17.10	16.90
Atmospheric Pressure	mbar	976	997	1020		1009	995	998	996	1015	0.00	995.00	998.00	1000.00	1010.00	1008.00	1022.00	1013.00
Gas Pressure	mbar	<0.1	<0.1	<0.1		-0.7	<0.1	<0.1	<0.1	<0.1	0.00	0.03	<0.17	0.54	-1.51	0.14	0.04	0.21
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	0.00	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
					Inaccessible													
Insitu Liquid Determinations																		
pH	pH units																	
Electrical Conductivity	µS/cm																	
Dissolved Oxygen	mg/l																	
Temperature	℃																	
Comment					Inaccessible						Equipment Failure							

Ness Farm Landfill
Field Monitoring Sheet

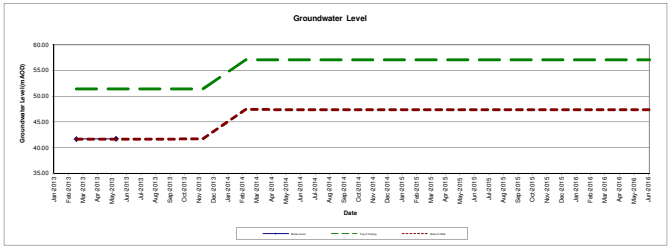
Sampling Location	**N26**				(Sept mon)		(Dec Mon)									
Type Of Sample Required	None	04/02/10	22/03/10	15/06/10	19/10/10	15/11/10	12/01/11	31/03/11	23/06/11	07/09/11	07/12/11	01/03/12	04/06/12	06/09/12	11/12/12	
Determinand	Units															
Water Level																
Water level to top of casing	m	0.00	7.17	7.31					7.37	7.39	7.40	7.28	7.48	Dry	Dry	
Borehole depth to top of casing	m	8.20	7.93	7.79					7.79	7.97	8.00	7.95	7.95	9.75	9.74	
Top of casing relative to Ordnance Datum Level	m	57.08	57.08	57.08					57.08	57.08	57.08	57.08	57.08	57.08	57.08	
Water level relative to Ordnance Datum	m	57.08	49.91	49.77					49.71	49.69	49.68	49.80	49.60			
Calculated purge volume	litres															
Base of Well relative to Ordnance Datum		48.88	48.88	48.88					48.88	48.88	48.88	48.88	48.88	48.88	47.34	
Gas Concentrations																
Date monitored	-	04/02/10	22/03/10	15/06/10					23/06/11	07/09/11	07/12/12	01/03/12	04/06/12	06/09/12	11/12/12	
Time of measurement	-	15.04	16:40	09:02					14:40	11:16	11:03	15:57	15:24	10:58	14:56	
Methane	% vol	0.00	<0.1	<0.1					<0.1	<0.1	<0.1	<0.1	2.7	23.1	30.3	
Carbon Dioxide	% vol	2.80	4.4	1.6					9.2	14.7	<0.1	<0.1	15.7	19.0	20.5	
Oxygen	% vol	17.30	12.8	17.7					6.7	0.6	21.2	21.1	2.6	0.7	1.9	
Atmospheric Pressure	mbar	1007.00	997	1022					1007	992	985	1019	1011	1011	1027	
Gas Pressure	mbar	0.04	0.03	+/-0.01					0.00	0.02	<0.1	0.13	-0.05	<0.01	0.04	
Gas Flow Rate	l/hr	0.00	+/-0.1	+/-0.1					<0.1	-0.1	<0.1	-0.2	<0.1	-0.1	0.4	
Insitu Liquid Determinations																
pH	pH units															
Electrical Conductivity	µS/cm															
Dissolved Oxygen	mg/l															
Temperature	ºC															
Comment					Bolt seized	Visit not undertaken due to adverse weather	Bolt seized	Bolt seized	Cover very difficult to remove							

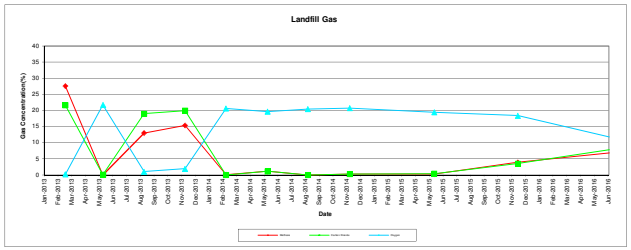
Well Position Moved. Now denoted as N26A

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N26																		
Type Of Sample Required	None	14/03/13	05/06/13	04/09/13	04/12/13	04/03/14	04/06/14	01/09/14	03/12/14	08/06/15	10/12/15	29/06/16							
Determinand	Units																		
Water Level																			
Water level to top of casing	m	9.71	9.68	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry							
Borehole depth to top of casing	m	9.76	9.72	9.73	9.68	9.68	9.72	9.75	9.72	9.72	9.72	9.72							
Top of casing relative to Ordnance Datum Level	m	51.39	51.39	51.39	51.39	57.08	57.08	57.08	57.08	57.08	57.08	57.08							
Water level relative to Ordnance Datum	m	41.68	41.71																
Calculated purge volume	litres																		
Base of Well relative to Ordnance Datum		41.63	41.67	41.66	41.71	47.40	47.36	47.33	47.36	47.36	47.36	47.36							
Gas Concentrations																			
Date monitored	-	14/03/13	05/06/13	04/09/13	04/12/13	04/03/14	04/06/14	01/09/14	03/12/14	08/06/15	10/12/15	29/06/16							
Time of measurement	-	10:38	16:12	10:07	14:29	15:25	15:12	15:37	12:20	14:01	13:02	14:00							
Methane	% vol	27.6	<0.1	13	15.4	0.1	1.1	<0.1	0.3	0.3	3.9	6.8							
Carbon Dioxide	% vol	21.6	0.1	19	19.9	<0.1	1.1	<0.1	0.3	0.4	3.5	7.8							
Oxygen	% vol	0.2	21.7	1	1.9	20.6	19.6	20.4	20.7	19.4	18.4	11.8							
Atmospheric Pressure	mbar	1006	1018	1013	1014	991	1001	1013	1021	1032	1006	995							
Gas Pressure	mbar	0.02	-0.17	0.04	0.05	-0.11	-0.1	-0.1	0.05	<0.01	-0.06	-0.28							
Gas Flow Rate	l/hr	<0.1	0.2	0.2	0.2	-0.8	<0.1	-0.1	-0.1	<0.1	-0.1	0.1							
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	ºC																		
Comment																			

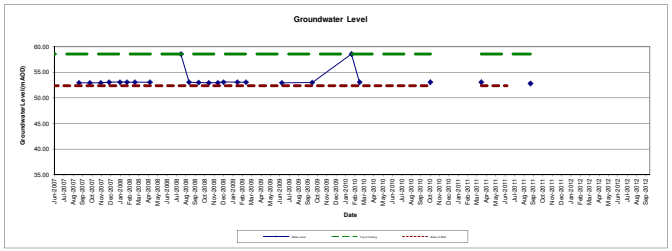
Ground Level - 50.77
Cover Level - 51.39

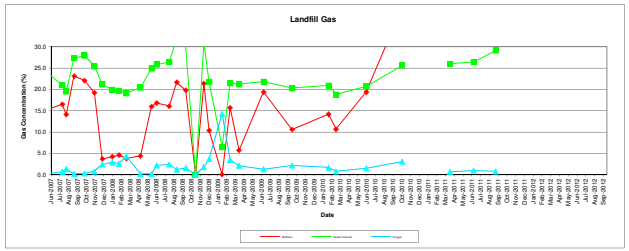




Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N27																		
Type Of Sample Required	None	22/06/04	04/08/04	25/08/04	27/09/04	05/11/04	18/11/04	16/12/04	26/01/05	11/03/05	19/04/05	16/05/05	26/06/05	23/07/05	16/08/05	16/09/05	28/10/05	15/11/05	07/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	1.41	1.21		Dry	Dry	5.53	5.62	5.56
Borehole depth to top of casing	m	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22
Top of casing relative to Ordnance Datum Level	m	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58
Water level relative to Ordnance Datum	m											57.17	57.37				53.05	52.96	53.02
Calculated purge volume	litres																		
Base of Well relative to Ordnance Datum		52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36
Gas Concentrations																			
Date monitored	-	22/06/2004	04/08/2004	25/08/2004	27/09/2004	05/11/2004	18/11/2004	16/12/2004	26/01/2005	11/03/2005	19/04/2005	16/05/2005	26/06/2005	23/07/2005	16/08/2005	16/09/2005	28/10/2005	15/11/2005	07/12/2005
Time of measurement	-		11:10	1638hrs	11:10	09:40	09:55	11:00	14:00	10:30	10.20am	9.40	8.00	14:21	11.44		11:20	14:35	13:30
Methane	% vol	15.7	9.7	2.7	15.9	18.2	18.1	22.8	18.2	20.1	21.1	16.4	13.6	9.1	0.1	27.1	0.1	20.7	15.3
Carbon Dioxide	% vol	23.8	11.8	22.9	23.1	15.5	15.3	22.4	14.8	14.2	22.1	10.2	11.1	4.6	<0.1	20.2	<0.1	24.9	20.8
Oxygen	% vol	2.0	10.9	2.1	2.4	13.6	13.8	3	12.9	13.1	16.8	15.2	16.1	11.1	8.9	4.1	20.6	<0.1	0.4
Atmospheric Pressure	mbar	1002	1010	1003	1007	1013	1010	973	1033	1019	1028	1021	1010	1019	1019	1006	990	1001	1005
Gas Pressure	mbar	0.0		<0.1	<0.1	0.1	0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.0		2	2.5
Gas Flow Rate	l/hr	0.3		2.6	2.7	2.7	2.5	1.6	2.5	1.4	<0.1	<0.1	<0.1	<0.1	1.1	<0.1		<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	ºC																		
Comment																			





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N27**																								
Type Of Sample Required	None	10/01/06	09/02/06	20/03/06	13/04/06	05/05/06	08/06/06	14/07/06	09/08/06	11/09/06	03/10/06	07/11/06	05/12/06	10/01/07	07/02/07	06/03/07	18/04/07	21/05/07	07/06/07	25/07/07	08/08/07	04/09/07	10/10/07	14/11/07	11/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	5.44	5.53	5.50	5.51	5.48	5.50	DRY	DRY	DRY	DRY	5.50	DRY	5.52	5.51	5.49	5.49	DRY	DRY	DRY	DRY	5.63	5.61	5.64	5.50
Borehole depth to top of casing	m	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22
Top of casing relative to Ordnance Datum Level	m	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58
Water level relative to Ordnance Datum	m	53.14	53.05	53.08	53.07	53.10	53.08					53.08		53.06	53.07	53.09	53.09					52.95	52.97	52.94	53.08
Calculated purge volume	litres																								
Base of Well relative to Ordnance Datum		52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36
Gas Concentrations																									
Date monitored	-	10/01/2006	09/02/2006	20/03/2006	13/04/2006	05/05/2006	08/06/2006	14/07/2006	09/08/2006	11/09/2006	03/10/2006	07/11/2006	05/12/2006	10/01/2007	07/02/2007	06/03/2007	18/04/2007	21/05/2007	07/06/2007	25/07/2007	08/08/2007	04/09/2007	10/10/2007	14/11/2007	11/12/2007
Time of measurement	-	15:35	15:34	12:20	10:30	15:30	13:00	13:30	12:06	13:15	11:20	11:40	15:00	15:45	13:15	16:15	14:20	11:28	11:36	15:15	14:25	12:04	15:45	14:40	11:35
Methane	% vol	20.7	15.00	12.70	14.3	11.5	15.4	17.5	16.1	14.3	17.5	17.6	7.7	12.1	11.6	12	11.1	18.2	15.4	16.5	14.1	23.1	22.1	19.2	3.7
Carbon Dioxide	% vol	23	22.10	20.20	23.7	21.6	21.8	22.9	23.5	22.9	25.8	26.2	23.4	23.1	23.8	21.9	20.6	23.6	23.7	21.0	19.5	27.3	27.9	25.4	21.2
Oxygen	% vol	0.6	0.90	0.00	0.0	0.0	0.0	0.5	0.6	1.1	1.2	0.9	0.5	0.7	0.8	0.9	1.1	0.3	0.3	0.7	1.3	0.2	0.3	0.8	2.4
Atmospheric Pressure	mbar	989	1012	1014	983	1008	1014	1021	999	1003	992	1005	968	998	995	973	1003	1009	1016	994	1009	1018	1016	1009	1024
Gas Pressure	mbar	1.1	<0.1	1.1	<0.1	<0.1	<0.1	0.9	<0.1	<0.1	<0.1	7.7	3	0.9	0.6	0.5	0.2	1.9	2.4	2.9	1.1	0.1	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment																									

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N27**																	
Type Of Sample Required	None	15/01/08	07/02/08	04/03/08	22/04/08	30/05/08	17/06/08	31/07/08	26/08/08	26/09/08	30/10/08	28/11/08	16/12/08	30/01/09	27/02/09	30/03/09	23/06/09	30/09/09
Determinand	Units																	
Water Level																		
Water level to top of casing	m	5.48	5.50	5.49	5.50	DRY	DRY	0.00	5.53	5.55	5.61	5.60	5.48	5.49	5.49	DRY	5.63	5.55
Borehole depth to top of casing	m	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22	6.22
Top of casing relative to Ordnance Datum Level	m	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58	58.58
Water level relative to Ordnance Datum	m	53.10	53.08	53.09	53.08			58.58	53.05	53.03	52.97	52.98	53.10	53.09	53.09		52.95	53.03
Calculated purge volume	litres							49.76	5.52	5.36	4.88	4.96	5.92	5.84	5.84		4.72	5.36
Base of Well relative to Ordnance Datum		52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36	52.36
Gas Concentrations																		
Date monitored	-	15/01/2008	07/02/2008	04/03/2008	22/04/2008	30/05/2008	17/06/2008	31/07/2008	26/08/2008	26/09/2008	30/10/08	28/11/08	16/12/08	30/01/09	27/02/09	30/03/09	23/06/09	30/09/09
Time of measurement	-	16:00	10:25	12:55				00:00	15:53	18:52	0.00	13.30	15.33	13.35	11.13	14.01	14.20	15.54
Methane	% vol	4.2	4.6	3.8	4.4	16	16.8	16.1	21.7	19.8	0.00	21.40	10.40	0.00	15.70	5.70	19.40	10.60
Carbon Dioxide	% vol	19.9	19.7	19.1	20.4	24.9	25.8	26.4	32.1	30.1	0.00	30.80	21.80	6.50	21.50	21.20	21.80	20.30
Oxygen	% vol	2.9	2.6	4.3	0.2	0.2	2.2	2.4	1.2	1.6	0.00	1.80	3.70	14.30	3.50	2.10	1.30	2.20
Atmospheric Pressure	mbar	976	979	1020	1009	1009	996	998	996	1015	0.00	995.00	997.00	1000.00	1010.00	1008.00	1022.00	1013.00
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	0.04	1.41	-0.09	0.02	0.02	0.00	0.06
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																		
pH	pH units																	
Electrical Conductivity	µS/cm																	
Dissolved Oxygen	mg/l																	
Temperature	℃																	
Comment											Equipment Failure							

Ness Farm Landfill
Field Monitoring Sheet

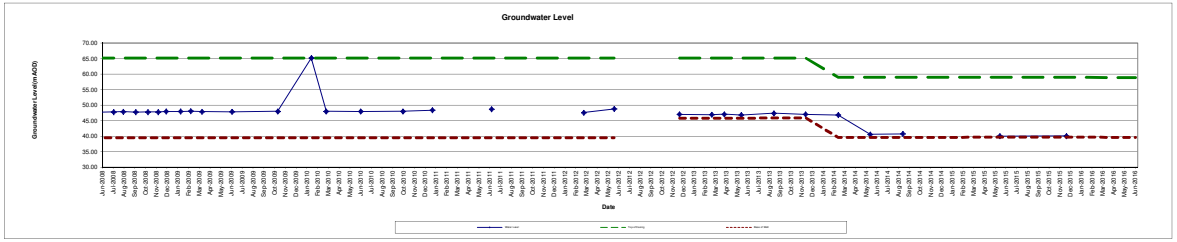
Sampling Location	**N27**				(Sept mon)	(Dec Mon)					Well removed as part of Phase 4 Restoration Works
Type Of Sample Required	None	04/02/10	02/03/10	15/06/10	18/10/10	12/01/11	01/04/11	23/06/11	07/09/11	05/12/11	
Determinand	Units										
Water Level											
Water level to top of casing	m	0.00	5.49	Dry	5.52		5.50	DRY	5.77		
Borehole depth to top of casing	m	6.22	5.78	5.77	5.77		5.72	5.77	5.77		
Top of casing relative to Ordnance Datum Level	m	58.58	58.58	58.58	58.58		58.58	58.58	58.58		
Water level relative to Ordnance Datum	m	58.58	53.09		53.06		53.08		52.81		
Calculated purge volume	litres	49.76	49.76								
Base of Well relative to Ordnance Datum		52.36	52.36	52.36	52.36		52.36	52.36			
Gas Concentrations											
Date monitored	-	04/02/10	22/03/10	15/06/10	18/10/10		01/04/11	23/06/11	07/09/11		
Time of measurement	-	15.12	16:30	08:44	13..25		0.88	14:57	11:26		
Methane	% vol	14.20	10.7	19.4	39.3		48.80	43.5	49.4		
Carbon Dioxide	% vol	20.90	18.8	20.7	25.6		26.00	26.4	29.1		
Oxygen	% vol	1.70	0.8	1.5	3.1		0.70	1.0	0.8		
Atmospheric Pressure	mbar	1007.00	996	1022	1001		998.00	1007	991		
Gas Pressure	mbar	0.01	-0.04	-0.02	-0.02		-0.12	0.00	<0.01		
Gas Flow Rate	l/hr	0.00	+/-0.1	+/-0.1	+/-0.1		0.1	<0.1	<0.1		
Insitu Liquid Determinations											
pH	pH units										
Electrical Conductivity	µS/cm										
Dissolved Oxygen	mg/l										
Temperature	℃										
Comment				NH Dry, no sample taken		Could not locate	Insufficient to sample		Borehole dry	Buried under mound of soil	

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N28																		
Type Of Sample Required	None	22/06/04	04/08/04	25/08/04	27/09/04	05/11/04	18/11/04	16/12/04	26/01/05	11/03/05	19/04/05	16/05/05	26/06/05	23/07/05	16/08/05	15/09/05	28/10/05	17/11/05	15/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	17.69	17.65	17.67	17.69	17.68	17.68	17.67	17.70	17.76	10.51	10.50	10.01		18.07	14.40	17.55	17.57	17.53
Borehole depth to top of casing	m	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70
Top of casing relative to Ordnance Datum Level	m	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21
Water level relative to Ordnance Datum	m	47.52	47.56	47.54	47.52	47.53	47.53	47.54	47.51	47.45	54.70	54.71	55.20		47.14	50.81	47.66	47.64	47.68
Calculated purge volume	litres																		
Base of Well relative to Ordnance Datum		39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51
Gas Concentrations																			
Date monitored	-	22/06/2004	04/08/2004	25/08/2004	27/09/2004	05/11/2004	18/11/2004	16/12/2004	26/01/2005	11/03/2005	19/04/2005	16/05/2005	26/06/2005	23/07/2005	16/08/2005	15/09/2005	28/10/2005	17/11/2005	15/12/2005
Time of measurement	-		11:12	1641hrs	11:30	12:15	10:15	12:50	14:10	10:40	11.16am	10.50	10.00	14:56	12.31	12:30	16:58	13:16	15:47
Methane	% vol	58.8	60.7		60.7	60.6	60.3	60.1	61.2	60.9	46.2	26.2	21.2	14.2	1.3	57.1	35.5	58.1	57.8
Carbon Dioxide	% vol	38.4	38	37.9	37.6	38.1	38.3	39.2	38	38.4	27.1	17.9	14.6	9.4	1.1	35.6	21.5	35.5	36.1
Oxygen	% vol	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	21	12.6	15.6	9.6	7.2	0.2	8.6	<0.1	<0.1
Atmospheric Pressure	mbar	1003	1010	1003	1007	1012	1010	973	1032	1019	1030	1023	1010	1019	1019	1013	989	1011	1005
Gas Pressure	mbar	0.3		0.3	<0.1	<0.1	<0.1	<0.1	1	<0.1	<0.1	1.1	<0.1	<0.1	<0.1	Not recorded		0	0
Gas Flow Rate	l/hr	1.2		2.7	2.6	2.5	2.5	1.8	<0.1	1.1	<0.1	1.4	0.1	<0.1	<0.1	7.4		<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	ºC																		
Comment																			

Cover Level - 58.945m AOD (March 2015)
Ground Level - 57.690m AOD (March 2015)

Cover Level - 58.893m AOD (May 2016)
Ground Level - 57.651m AOD (May 2016)

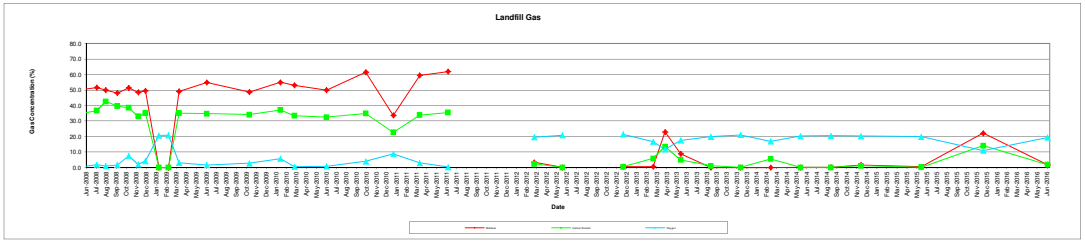


Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N28																								
Type Of Sample Required	None	10/01/06	10/02/06	21/03/06	12/04/06	04/05/06	26/06/06	24/07/06	09/08/06	12/09/06	03/10/06	08/11/06	05/12/06	11/01/07	07/02/07	12/03/07	19/04/07	16/05/07	07/06/07	25/07/07	13/08/07	05/09/07	11/10/07	14/11/07	11/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	17.56	17.62	16.62	16.53	17.50	17.49	17.50	17.45	17.61	17.48	17.42		17.45	17.48	17.44	17.54	17.55	17.65	17.67	17.46	17.49	17.47	17.48	17.40
Borehole depth to top of casing	m	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70
Top of casing relative to Ordnance Datum Level	m	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21
Water level relative to Ordnance Datum	m	47.65	47.59	48.59	48.68	47.71	47.72	47.71	47.76	47.60	47.73	47.79		47.76	47.73	47.77	47.67	47.66	47.56	47.54	47.75	47.72	47.74	47.73	47.81
Calculated purge volume	litres																								
Base of Well relative to Ordnance Datum		39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51
Gas Concentrations																									
Date monitored	-	10/01/2006	10/02/2006	21/03/2006	12/04/2006	04/05/2006	26/06/2006	24/07/2006	09/08/2006	12/09/2006	03/10/2006	08/11/2006	05/12/2006	11/01/2007	07/02/2007	12/03/2007	19/04/2007	16/05/2007	07/06/2007	25/07/2007	13/08/2007	05/09/2007	11/10/2007	14/11/2007	11/12/2007
Time of measurement	-	13:50	12:44	15:35	13:51	12:30	16:20	13:50	13:50	12:07	12:55	15:27	13:10	11:54	12:25	15:45	14:40	14:50	13:40	14:15	12:50	13:33	10:25	12:55	10:50
Methane	% vol	60.1	59.40	53.00	51.3	53.9	51.6	54.6	49.8	54.4	55.2	56.4	52.8	50.1	51.7	52.1	55.7	52.6	51.1	52.9	52.8	55.5	53.0	49.7	53.5
Carbon Dioxide	% vol	35.5	35.80	32.30	26.1	32.1	34.5	34.8	35.6	34.9	35.6	35.7	35.7	35.6	34.8	32.4	37.4	37.9	33.9	30.1	36.1	37.4	36.5	37.3	39.8
Oxygen	% vol	0.4	0.60	0.00	0.0	0.2	0.1	0.6	0.2	0.5	1	0.6	0.5	0.5	0.7	0.7	0.5	0.7	0.4	0.6	0.3	0.2	0.2	0.4	0.8
Atmospheric Pressure	mbar	991	1016	1010	995	1009	1008	1007	998	999	992	1002	968	968	994	1002	1011	999	1016	994	989	1015	1009	1008	1021
Gas Pressure	mbar	0.4	<0.1	<0.1	<0.1	0.6	0.4	0.1	<0.1	<0.1	0.1	0.9	3.5	6.2	1	0.8	1.7	1.1	4.3	2.2	0.1	<0.1	<0.1	<0.1	0.8
Gas Flow Rate	l/hr	0.4	1.4	0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	0.5	<0.1	<0.1	0.6	<0.1	<0.1	0.3	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units												Cannot												
Electrical Conductivity	µS/cm												remove												
Dissolved Oxygen	mg/l												new												
Temperature	℃												plug/ cap												
Comment								Cannot Fit Bolt Standpipe To High	Cannot Fit Bolt Standpipe To High	NO Lock standpipe to high	NO Lock standpipe to high	NO Lock standpipe to high													

Cover Level - 58.945m AOD (March 2015)
Ground Level - 57.690m AOD (March 2015)

Cover Level - 58.893m AOD (May 2016)
Ground Level - 57.651m AOD (May 2016)



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N28**																	
Type Of Sample Required	None	11/01/08	14/02/08	04/03/08	22/04/08	27/05/08	16/06/08	23/07/08	19/08/08	23/09/08	28/10/08	26/11/08	18/12/08	28/01/09	26/02/09	30/03/09	23/06/09	30/10/09
Determinand	Units																	
Water Level																		
Water level to top of casing	m	17.33	17.37	17.40	17.40	17.47	17.44	17.42	17.32	17.43	17.41	17.39	17.25	17.27	17.14	17.32	17.35	17.21
Borehole depth to top of casing	m	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70	25.70
Top of casing relative to Ordnance Datum Level	m	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21
Water level relative to Ordnance Datum	m	47.88	47.84	47.81	47.81	47.74	47.77	47.79	47.89	47.78	47.80	47.82	47.96	47.94	48.07	47.89	47.86	48.00
Calculated purge volume	litres							66.24	67.04	66.16	66.32	66.48	67.60	67.44	68.48	67.04	66.80	67.92
Base of Well relative to Ordnance Datum		39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51
Gas Concentrations																		
Date monitored	-	11/01/2008	14/02/2008	04/03/2008	22/04/2008	27/05/2008	16/06/2008	23/07/2008	19/08/2008	23/09/2008	28/10/08	26/11/08	18/12/08	28/01/09	26/02/09	30/03/09	23/06/09	30/10/09
Time of measurement	-	13:40	12:00	13:10				00:00	16:00	15:44	15.16	13.55	14.05	15.14	16.14	12.13	10.11	12.41
Methane	% vol	51.7	48.2	42.6	46.9	49.7	50.5	51.6	50.0	48.1	51.40	48.50	49.60	0.00	0.00	49.10	54.90	48.70
Carbon Dioxide	% vol	38.5	38.0	35.9	34.6	34.7	35.3	36.7	42.6	39.6	38.60	33.00	35.10	0.00	0.00	35.10	34.80	34.20
Oxygen	% vol	0.7	0.9	1.2	0.3	0.8	0.8	1.9	1.0	1.6	7.60	2.10	4.20	20.70	20.80	3.10	1.70	2.80
Atmospheric Pressure	mbar	987	1005	1020	1009	1013	997	1007	980	1016	1000	1010	999	1013	1010	1008	1026.00	1016.00
Gas Pressure	mbar	1	0.7	0.3	<0.1	<0.1	<0.1	-0.7	<0.1	<0.1	<0.1	-0.17	0.17	-0.17	-0.09	-1.14	-0.30	-0.87
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																		
pH	pH units																	
Electrical Conductivity	µS/cm																	
Dissolved Oxygen	mg/l																	
Temperature	ºC																	
Comment																		

Cover Level - 58.945m AOD (March 2015)
Ground Level - 57.690m AOD (March 2015)

Cover Level - 58.893m AOD (May 2016)
Ground Level - 57.651m AOD (May 2016)

Ness Farm Landfill
Field Monitoring Sheet

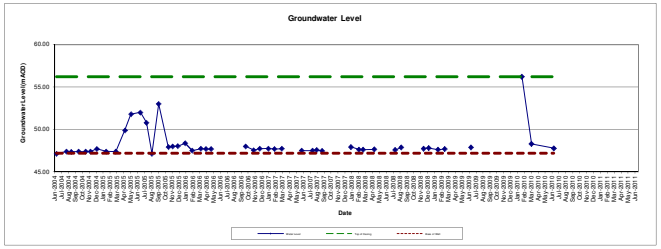
Sampling Location	**N28**				(Sept mon)	(Dec Mon)																				
Type Of Sample Required	None	02/02/10	16/03/10	22/06/10	19/10/10	11/01/11	01/04/11	27/06/11	07/09/11	05/12/11	14/03/12	08/06/12	06/09/12	10/12/12	11/03/13	16/04/13	03/06/13	03/09/13	02/12/13	03/03/14	02/06/14	02/09/14	03/12/14	04/06/15	10/12/15	22/06/16
Determinand	Units																									
Water Level																										
Water level to top of casing	m	0.00	17.21	17.28	17.18	16.85		16.48			17.60	16.43		18.16	18.27	18.14	18.4	17.82	18.19	12.13	18.39	18.23	Dry	18.96	18.9	Dry
Borehole depth to top of casing	m	25.70	18.39	18.39	18.41	18.44		18.44			19.68	19.40		19.49	19.43	19.42	19.4	19.33	19.39	19.38	19.37	19.41	19.36	19.32	19.32	19.3
Top of casing relative to Ordnance Datum Level	m	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21	65.21		65.21	65.21	65.21	65.21	65.21	65.21	58.98	58.98	58.98	58.98	58.98	58.98	58.89
Water level relative to Ordnance Datum	m	65.21	48.00	47.93	48.03	48.36		48.73			47.61	48.78		47.05	46.94	47.07	46.81	47.39	47.02	46.85	40.59	40.75		40.02	40.08	
Calculated purge volume	litres	205.60	205.60																							
Base of Well relative to Ordnance Datum		39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51	39.51		45.72	45.78	45.79	45.81	45.88	45.82	39.60	39.61	39.57	39.62	39.66	39.66	39.59
Gas Concentrations																										
Date monitored	-	02/02/10	16/03/10	22/06/10	19/10/10	11/01/2011	01/04/11	27/06/11			14/03/12	08/06/12		10/12/12	11/03/13	16/04/13	03/06/13	03/09/13	02/12/13	03/03/14	02/06/14	02/09/14	03/12/14	04/06/15	10/12/15	22/06/16
Time of measurement	-	13.26	14:00	11:39	09:30	15:10	12:05	11:09			11:20	13:46		13:00	11:35	11:29	15:23	13:05	11:47	15:30	14:03	15:36	11:47	13:17	14:23	11:53
Methane	% vol	55.00	53.0	50.0	61.5	33.7	59.5	61.9			3.4	0.1		0.6	0.6	23	8.9	<0.1	<0.1	<0.1	0.1	0.2	1.7	0.5	22.2	1.8
Carbon Dioxide	% vol	37.10	33.4	32.5	34.9	22.7	33.9	35.5			2.4	0.1		0.5	5.9	13.5	4.9	1.1	0.1	5.6	0.1	0.1	1.1	0.2	14.1	1.9
Oxygen	% vol	5.80	0.6	0.8	4.0	8.9	3.0	0.3			19.6	20.9		21.5	16.7	11.8	17.5	19.9	21	16.9	20.3	20.5	20.3	19.9	10.9	19.4
Atmospheric Pressure	mbar	1003.00	1013	1013	999	1004	1005	1008			1022	989		1022	1016	987	1027	1015	1025	979	1009	1017	1020	1019	1005	1007
Gas Pressure	mbar	-0.13	0.03	0.02	-0.34	0.11	-0.23	-0.03			<0.01	-0.02		0.14	<0.01	-0.3	0.21	0.03	0.2	0.17	-0.25	-0.11	0.05	-0.08	-0.05	<0.01
Gas Flow Rate	l/hr	0.00	+/-0.1	+/-0.1	-0.2	+/-0.1	0.2	<0.1			n/r	-0.1		0.2	0.1	0.9	0.2	<0.1	-0.6	0.1	<0.1	<0.1	<0.1	0.3	-0.9	-0.2
Insitu Liquid Determinations																										
pH	pH units											7.1					7.1		7		6.8					
Electrical Conductivity	µS/cm											3730					4220		2650		2270					
Dissolved Oxygen	mg/l											<1.0					0.4		2.2							
Temperature	℃											11.3			6.8		17.0	20.8	9.3	10.1	15.1	17.9		15.5		
Comment							Could not remove bung to dip		Monitoring point knocked over	Too high to monitor	Top 2 metre of borehole required unscrewing to access	Gas tap needs replacing	Position could not be monitored due to ongoing works	No gas tap. Mud inside.			Inner csing loose requires attention	Very muddy.		Leachate was oily				Insufficient sample fo in situ determinations	Not enough sample available for full suite of chemical analysis.	

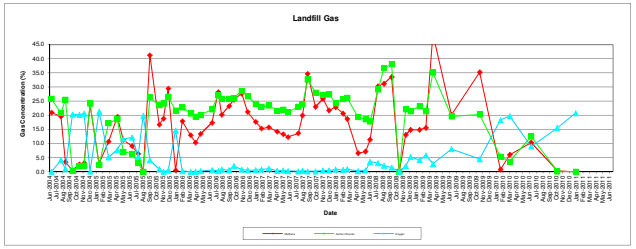
Cover Level - 58.945m AOD (March 2015)
Ground Level - 57.690m AOD (March 2015)

Cover Level - 58.893m AOD (May 2016)
Ground Level - 57.651m AOD (May 2016)

Ness Farm Landfill
Field Monitoring Sheet

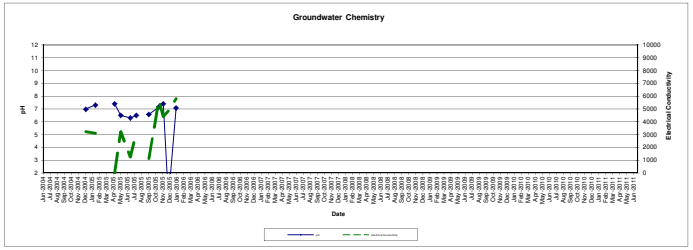
Sampling Location	N29																		
Type Of Sample Required	Leachate	22/06/04	04/08/04	25/08/04	27/09/04	28/10/04	18/11/04	16/12/04	26/01/05	10/03/05	19/04/05	16/05/05	26/06/05	23/07/05	16/08/05	15/09/05	28/10/05	16/11/05	08/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	9.07	8.83	8.84	8.83	8.82	8.81	8.50	8.80	8.81	6.31	4.42	4.20	5.41	9.07	3.19	8.29	8.21	8.18
Borehole depth to top of casing	m	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
Top of casing relative to Ordnance Datum Level	m	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21
Water level relative to Ordnance Datum	m	47.14	47.38	47.37	47.38	47.39	47.40	47.71	47.41	47.40	49.90	51.79	52.01	50.80	47.14	53.02	47.92	48.00	48.03
Calculated purge volume	litres	-1.68																	
Base of Well relative to Ordnance Datum		47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21
Gas Concentrations																			
Date monitored	-	22/06/2004	04/08/2004	25/08/2004	27/09/2004	28/10/2004	18/11/2004	16/12/2004	26/01/2005	10/03/2005	19/04/2005	16/05/2005	26/06/2005	23/07/2005	16/08/2005	15/09/2005	28/10/2005	16/11/2005	08/12/2005
Time of measurement	-		11:15	0730hrs	9:30	13:40	10:25	09:50	14:20	17:10	12.31pm	11.20	11.30	15:24	1.05		16:49	10:20	12:28
Methane	% vol	21.0	19.6	3.5	0.5	2.6	3.1	23.7	3	10.7	19.5	11.2	9.1	6.4	<0.1	41.2	16.7	18.8	29.5
Carbon Dioxide	% vol	25.8	20.9	25.5	0.4	2	2.2	24.2	2.4	17.2	18.6	7.1	6.4	3.2	<0.1	26.3	23.6	24.2	26.5
Oxygen	% vol	<0.1	4.1	1	20.3	20.2	20.6	0.2	21.3	5.1	7.8	11.6	12.2	5.4	19.9	4.1	1	<0.1	0.5
Atmospheric Pressure	mbar	1004	1011	1001	1012	1009	1009	973	1033	1012	1030	1016	1010	1019	1019	1001	989	1005	1014
Gas Pressure	mbar	0.0		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.4	0.1	1.1	0.1	1.1	0.1		1.2	3.5
Gas Flow Rate	l/hr	0.5		2.7	2.5	2.3	2.5	1.6	2.5	1.4	1.1	0.1	0.1	<0.1	1.2	<0.1		<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units							6.99	7.32		7.41	6.51	6.31	6.51		6.58	7.16	7.41	-
Electrical Conductivity	µS/cm							3230	3090		-	3220	1241	3220		1134	5670	4410	4850
Dissolved Oxygen	mg/l							15	13.8		11.2	12.1	19.6	12.1		12.1	2.11	5.19	3.91
Temperature	℃							9.9	10.1		10	10	10	10		14	24.5	11	20.1
Comment		Insufficient sample	Insufficient to sample		Insufficient to sample	Insufficient to sample	Insufficent to Sample			Insufficent sample							clear foamy		





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N29																							
Type Of Sample Required	Leachate	10/01/06	10/02/06	20/03/06	12/04/06	04/05/06	26/06/06	24/07/06	09/08/06	12/09/06	03/10/06	08/11/06	05/12/06	11/01/07	07/02/07	12/03/07	19/04/07	16/05/07	07/06/07	25/07/07	13/08/07	05/09/07	11/10/07	14/11/07	11/12/07
Determinand	Units																							
Water Level																								
Water level to top of casing	m	7.83	8.71	8.49	8.53	8.52	DRY	DRY	DRY	Dry	8.20	8.65	8.47	8.46	8.51	8.47	DRY	DRY	8.70	8.72	8.64	8.75	DRY	DRY	DRY
Borehole depth to top of casing	m	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
Top of casing relative to Ordnance Datum Level	m	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21
Water level relative to Ordnance Datum	m	48.38	47.50	47.72	47.68	47.69					48.01	47.56	47.74	47.75	47.70	47.74			47.51	47.49	47.57	47.46			
Calculated purge volume	litres																								
Base of Well relative to Ordnance Datum		47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21
Gas Concentrations																									
Date monitored	-	10/01/2006	10/02/2006	20/03/2006	12/04/2006	04/05/2006	26/06/2006	24/07/2006	09/08/2006	12/09/2006	03/10/2006	08/11/2006	05/12/2006	11/01/2007	07/02/2007	12/03/2007	19/04/2007	16/05/2007	07/06/2007	25/07/2007	13/08/2007	05/09/2007	11/10/2007	14/11/2007	11/12/2007
Time of measurement	-	13:59	14:59	15:15	13:59	12:42	16:14	13:40	13:41	11:57	13:05	15:15	13:45	11:45	12:15	15:35	14:50	15:00	13:55	14:25	13:00	13:53	10:37	13:05	10:55
Methane	% vol	0.5	17.90	12.90	10.3	13.4	17.4	28.2	20.2	23.3	25.5	27.7	21.2	17.7	15.3	15.8	14.2	13.3	12.3	13.6	20.0	34.7	23.0	25.8	21.8
Carbon Dioxide	% vol	21.7	22.80	20.70	19.5	20.1	22.1	27.1	25.9	25.9	26	28.6	26.8	24	23	23.5	21.5	22	21.1	23.0	23.8	32.6	28.0	27.2	27.4
Oxygen	% vol	14.6	0.30	0.00	0.0	0.3	0.6	0.3	0.8	0.6	2.1	0.8	0.6	0.6	0.8	1.2	0.4	0.5	0.3	0.2	0.4	0.2	0.2	0.5	0.5
Atmospheric Pressure	mbar	990	1015	1010	995	1009	1008	1007	998	999	992	1002	968	968	994	1002	1010	999	1017	994	989	1015	1009	1008	1024
Gas Pressure	mbar	0.6	<0.1	<0.1	<0.1	0.4	0.3	2.2	0.9	1.5	0.1	<0.1	0.2	6.2	0.8	0.4	0.7	0.4	1.4	0.9	Broken Switch	Broken Switch	Broken Switch	Broken Switch	Broken Switch
Gas Flow Rate	l/hr	0.8	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	<0.1	<0.1	0.5	0.3	<0.1	<0.1	Closed	Stuck Closed	Stuck Closed	Stuck Closed	Stuck Closed
Insitu Liquid Determinations																									
pH	pH units	7.08																							
Electrical Conductivity	µS/cm	5810																							
Dissolved Oxygen	mg/l	0.91																							
Temperature	ºC	22.8																							
Comment			Insufficient liquid to obtain sample	Insufficient liquid to obtain sample	Insufficient liquid to obtain sample	Insufficient liquid to obtain sample							Insufficient liquid to obtain sample	Insufficient liquid to obtain sample		Insufficient liquid to obtain sample			Insufficient liquid to obtain sample. Venting reading	Insufficient liquid to obtain sample. Venting reading	Insufficient liquid to obtain sample. Venting reading	Insufficient liquid to obtain sample. Venting reading	Venting gas Reading	Venting gas Reading	Venting gas Reading



Ness Farm Landfill
Field Monitoring Sheet

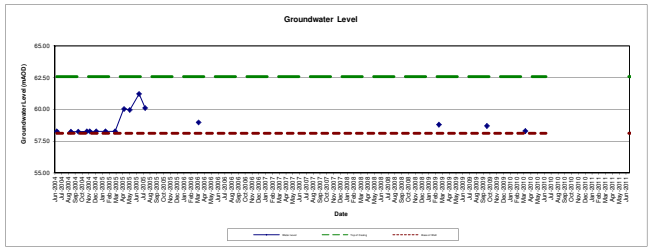
Sampling Location	**N29**																	
Type Of Sample Required	Leachate	11/01/08	14/02/08	04/03/08	22/04/08	27/05/08	16/06/08	23/07/08	19/08/08	23/09/08	28/10/08	26/11/08	18/12/08	28/01/09	26/02/09	30/03/09	23/06/09	30/10/09
Determinand	Units																	
Water Level																		
Water level to top of casing	m	8.28	8.58	8.60	8.55	DRY	DRY	8.64	8.34	DRY	DRY	8.46	8.41	8.60	8.53	DRY	8.34	DRY
Borehole depth to top of casing	m	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
Top of casing relative to Ordnance Datum Level	m	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21	56.21
Water level relative to Ordnance Datum	m	47.93	47.63	47.61	47.66			47.57	47.87			47.75	47.80	47.61	47.68		47.87	
Calculated purge volume	litres																	
Base of Well relative to Ordnance Datum		47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21
Gas Concentrations																		
Date monitored	-	11/01/2008	14/02/2008	04/03/2008	22/04/2008	27/05/2008	16/06/2008	23/07/2008	19/08/2008	23/09/2008	28/10/08	26/11/08	18/12/08	28/01/09	26/02/09	30/03/09	23/06/09	30/10/09
Time of measurement	-	13:53	12:10	13:20				00:00	16:07	16:03	0.00	14.05	14.18	15.19	16.19	12.29	10.26	12.55
Methane	% vol	22.9	20.7	18.7	6.6	7.2	11.4	30.3	31.2	33.6	0.00	13.10	14.90	14.90	15.60	48.80	20.20	35.20
Carbon Dioxide	% vol	24.3	25.7	26.2	19.4	18.6	17.8	29.1	36.7	38.1	0.00	22.10	21.40	23.20	21.40	35.10	19.60	20.30
Oxygen	% vol	0.8	0.7	0.9	0.3	0.5	3.6	3.1	2.2	1.5	0.00	2.00	5.30	4.20	5.80	2.80	8.10	4.50
Atmospheric Pressure	mbar	987	1005	1020	1009	1013	997	1007	980	1017	0	1010	1000	1013	1013	1008	1026.00	1016.00
Gas Pressure	mbar	Broken Switch	Broken Switch	Broken Switch	Broken Switch	Broken Switch	Broken Switch	Broken Switch	Broken Switch	0	0.00	0.00	0.01	0.00	0.03	Damaged	Damaged	Damaged
Gas Flow Rate	l/hr	Stuck Closed	Stuck Closed	Stuck Closed	Stuck Closed	Stuck Closed	Stuck Closed	Stuck Closed	Stuck Closed	0	0.00	0.00	0.10	0.00	0.00	Damaged	Damaged	Damaged
Insitu Liquid Determinations																		
pH	pH units																	
Electrical Conductivity	µS/cm																	
Dissolved Oxygen	mg/l																	
Temperature	℃																	
Comment		Insufficient liquid to obtain sample. Venting reading	Insufficient liquid to obtain sample. Venting reading	Insufficient liquid to obtain sample. Venting reading							Equipment Failure							

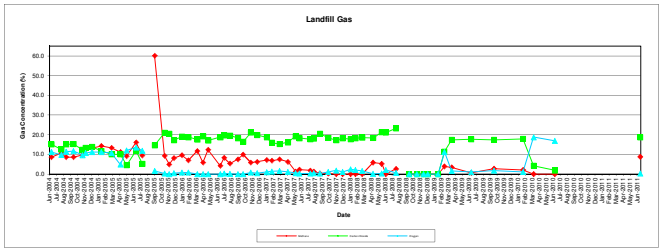
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N29				(Sept mon)	(Dec Mon)			Well removed as part of Phase 3 restoration works
Type Of Sample Required	Leachate	02/02/10	16/03/10	22/06/10	19/10/10	11/01/11	01/04/11	31/05/11	
Determinand	Units								
Water Level									
Water level to top of casing	m	0.00	7.91	8.43					
Borehole depth to top of casing	m	9.00	8.80	8.78					
Top of casing relative to Ordnance Datum Level	m	56.21	56.21	56.21					
Water level relative to Ordnance Datum	m	56.21	48.30	47.78					
Calculated purge volume	litres								
Base of Well relative to Ordnance Datum		47.21	47.21	47.21					
Gas Concentrations									
Date monitored	-	02/02/10	16/03/10	22/06/10	19/10/10	11/01/11			
Time of measurement	-	14.01	13:45	11:24	10:00	15:00			
Methane	% vol	0.80	6.0	10.3	0.3	<0.1			
Carbon Dioxide	% vol	5.40	3.6	12.5	0.2	<0.1			
Oxygen	% vol	18.30	19.7	9.0	15.5	20.8			
Atmospheric Pressure	mbar	1003.00	1013	1013	999	1004			
Gas Pressure	mbar	0.00	-0.11	+/-0.01	-0.1	0.21			
Gas Flow Rate	l/hr	0.00	+/-0.1	+/-0.1	+/-0.1	+/-0.1			
Insitu Liquid Determinations									
pH	pH units								
Electrical Conductivity	µS/cm								
Dissolved Oxygen	mg/l								
Temperature	ºC								
Comment				BH effectively dry, unable to sample. Tap stuck closed, reading taken venting		Could not remove bung to dip	Could not remove bung to dip + Tap seized	Could not locate	

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N30																		
Type Of Sample Required	None	23/06/04	05/08/04	25/08/04	27/09/04	05/11/04	18/11/04	16/12/04	26/01/05	11/03/05	19/04/05	16/05/05	26/06/05	23/07/05	16/08/05	15/09/05	28/10/05	17/11/05	07/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	4.31	Dry	4.32	4.32	4.31	4.30	4.31	4.31	4.31	2.53	2.61	1.36	2.46	Dry	Dry	Dry	Dry	Dry
Borehole depth to top of casing	m	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45
Top of casing relative to Ordnance Datum Level	m	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58
Water level relative to Ordnance Datum	m	58.27		58.26	58.26	58.27	58.28	58.27	58.27	58.27	60.05	59.97	61.22	60.12					
Calculated purge volume	litres																		
Base of Well relative to Ordnance Datum		58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13
Gas Concentrations																			
Date monitored	-	23/06/2004	05/08/2004	25/08/2004	27/09/2004	05/11/2004	18/11/2004	16/12/2004	26/01/2005	11/03/2005	19/04/2005	16/05/2005	26/06/2005	23/07/2005	16/08/2005	15/09/2005	28/10/2005	17/11/2005	07/12/2005
Time of measurement	-		11:00	1310hrs	11:40	12:20	10:30	13:10	14:40	10:50	1.42pm	12.00	1.00	15:56			11:33	13:05	13:42
Methane	% vol	8.6	10.7	8.6	8.6	9.8	12.4	13.1	14.3	13.4	11.2	9.2	16.1	9.5		60.1	9.3	5	8.2
Carbon Dioxide	% vol	15.2	12.5	15.1	15.3	12.4	13.3	13.9	11.8	10.1	10.1	4.6	11.9	5.2		14.6	21	20.6	17.3
Oxygen	% vol	11.3	9.8	11.4	11.7	9.7	10.8	11.2	11.3	10.8	4.9	12.1	13.6	11.9		1.6	0.4	<0.1	0.5
Atmospheric Pressure	mbar	992	1012	1004	1007	1012	1008	973	1033	1013	1030	1019	1010	1019		1006	991	1010	1005
Gas Pressure	mbar	0.1		<0.1	<0.1		<0.1	<0.1	1.2	<0.1	0.1	<0.1	<0.1	1.1		0		1.3	3.7
Gas Flow Rate	l/hr	0.4		2.6	2.7		2.6	1.7	3.9	1.3	<0.1	<0.1	<0.1	1.1		0.1		0.2	0.1
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment																			





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N30**																								
Type Of Sample Required	None	11/01/06	09/02/06	20/03/06	13/04/06	05/05/06	27/06/06	14/07/06	09/08/2006	12/09/06	05/10/06	07/11/06	05/12/06	15/01/07	07/02/07	12/03/07	18/04/07	21/05/07	07/06/07	24/07/07	08/08/07	04/09/07	10/10/07	14/11/07	12/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	Dry	Dry	3.60	Dry	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
Borehole depth to top of casing	m	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45
Top of casing relative to Ordnance Datum Level	m	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58
Water level relative to Ordnance Datum	m			58.98																					
Calculated purge volume	litres																								
Base of Well relative to Ordnance Datum		58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13
Gas Concentrations																									
Date monitored	-	11/01/2006	09/02/2006	20/03/2006	13/04/2006	05/05/2006	27/06/2006	14/07/2006	09/08/2006	12/09/2006	05/10/2006	07/11/2006	05/12/2006	15/01/2007	07/02/2007	12/03/2007	18/04/2007	21/05/2007	07/06/2007	24/07/2007	08/08/2007	04/09/2007	10/10/2007	14/11/2007	12/12/2007
Time of measurement	-	10:48	15:44	12:41	10:38	15:15	10:15	13:40	12:12	13:10	13:37	12:03	16:00	12:15	13:25	16:00	14:00	11:17	11:13	16:30	14:15	11:52	15:25	14:55	15:25
Methane	% vol	9.6	7.00	11.80	5.90	12.4	4.2	8.3	5.4	7.6	9.9	5.9	6.3	7.2	6.9	7.5	6.3	1.3	2.3	1.9	1.4	0.3	0.4	0.0	0.0
Carbon Dioxide	% vol	19.1	18.80	17.60	19.30	17.1	18.8	19.7	19.6	18.3	16.4	21.1	19.8	18.7	15.9	15.3	16.2	19.3	18.3	17.8	18.1	20.6	18.4	17.3	18.2
Oxygen	% vol	0.8	0.80	0.00	0.00	0.0	0.0	0.4	0.2	0	0	0.8	0.5	1.1	1.4	1.7	1.2	0.6	0.3	0.4	0.6	0.3	1.2	1.9	1.2
Atmospheric Pressure	mbar	997	1011.00	1013.00	982.00	1007	1012	1021	999	998	999	1004	968	974	995	1003	1002	1009	1016	997	1009	1018	1016	1009	1009
Gas Pressure	mbar	0.9	0.70	1.70	1.10	0.7	0.7	2.5	1.4	0.5	<0.1	3	1.2	<0.1	<0.1	<0.1	<0.1	2.6	1.3	0.8	<0.1	<0.1	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	ºC																								
Comment																									

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N30**																	
Type Of Sample Required	None	16/01/08	05/02/08	06/03/08	22/04/08	30/05/08	17/06/08	31/07/08	21/08/08	26/09/08	30/10/08	28/11/08	16/12/08	30/01/09	27/02/09	30/03/09	23/06/09	30/09/09
Determinand	Units																	
Water Level																		
Water level to top of casing	m	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	3.76	DRY	DRY	3.87
Borehole depth to top of casing	m	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45	4.45
Top of casing relative to Ordnance Datum Level	m	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58	62.58
Water level relative to Ordnance Datum	m														58.82			58.71
Calculated purge volume	litres														5.52			4.64
Base of Well relative to Ordnance Datum		58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13
Gas Concentrations																		
Date monitored	-	16/01/2008	05/02/2008	06/03/2008	22/04/2008	30/05/2008	17/06/2008	31/07/2008	21/08/2008	26/09/2008	30/10/08	28/11/08	16/12/08	30/01/09	27/02/09	30/03/09	23/06/09	30/09/09
Time of measurement	-	14:00	16:00	16:00				00:00		00:00	0.00	0.00	0.00	0.00	10.59	15.01	14.45	12.32
Methane	% vol	0.0	0.0	0.0	5.9	5.3	0.0	2.7		0.0	0.00	0.00	0.00	0.00	3.90	3.50	0.70	2.80
Carbon Dioxide	% vol	17.8	18.2	18.5	18.4	21.3	21.1	23.3		0.0	0.00	0.00	0.00	0.00	11.50	17.40	17.80	17.40
Oxygen	% vol	2.5	2.2	1.7	0.2	0.4	2.2	0.7		0.0	0.00	0.00	0.00	0.00	11.20	1.60	1.10	1.80
Atmospheric Pressure	mbar	988	997	1000	1007	1009	995	998		0	0.00	0.00	0.00	0	1010	1007	1021.00	1012.00
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		0	0.00	0.00	0.00	0.00	-1.54	0.01	0.04	0.03
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		0	0.00	0.00	0.00	0.00	-4.20	<0.1	<0.1	<0.1
Insitu Liquid Determinations																		
pH	pH units																	
Electrical Conductivity	µS/cm																	
Dissolved Oxygen	mg/l																	
Temperature	℃																	
Comment									Inaccessible due to overgrown vegetation		Equipment Failure	Inaccessible due to overgrown vegetation	Inaccessible due to overgrown vegetation					

Ness Farm Landfill
Field Monitoring Sheet

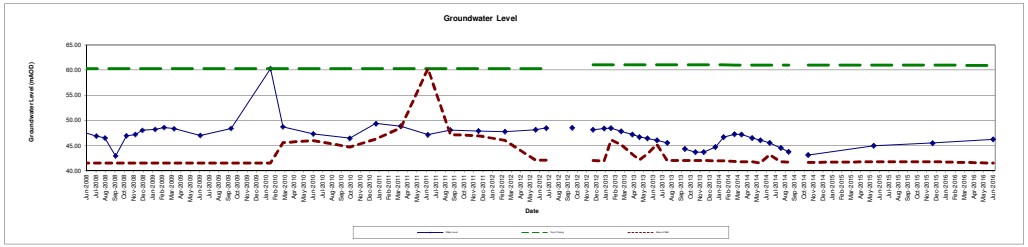
Sampling Location	N30					(Dec Mon)			Well removed as part of Phase 3 restoration works
Type Of Sample Required	None	04/02/10	22/03/10	22/06/10	15/11/10	13/01/11	28/06/11	07/12/11	
Determinand	Units								
Water Level									
Water level to top of casing	m	Dry	4.27	Dry			DRY	Dry	
Borehole depth to top of casing	m	4.45	4.35	4.35			4.35	4.33	
Top of casing relative to Ordnance Datum Level	m	62.58	62.58	62.58			62.58	62.58	
Water level relative to Ordnance Datum	m		58.31						
Calculated purge volume	litres								
Base of Well relative to Ordnance Datum		58.13	58.13	58.13			58.13	58.25	
Gas Concentrations									
Date monitored	-	04/02/10	22/03/10	22/06/10			28/06/11	07/12/12	
Time of measurement	-	15.18	16:20	13:00			11:21	13:24	
Methane	% vol	2.10	<0.1	<0.1			8.8	5.5	
Carbon Dioxide	% vol	17.90	4.3	1.9			18.8	22.3	
Oxygen	% vol	1.20	18.8	16.9			0.4	2.3	
Atmospheric Pressure	mbar	1007.00	996	1012			1011	990	
Gas Pressure	mbar	0.03	-0.1	+/-0.01			-0.12	<0.1	
Gas Flow Rate	l/hr	0.00	+/-0.1	+/-0.1			<0.1	-0.3	
Insitu Liquid Determinations									
pH	pH units								
Electrical Conductivity	µS/cm								
Dissolved Oxygen	mg/l								
Temperature	ºC								
Comment				BH dry, no water sample taken	Visit not undertaken due to adverse weather	Removed			

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N31																		
Type Of Sample Required	Leachate	22/06/04	04/08/04	25/08/04	27/09/04	28/10/04	18/11/04	16/12/04	26/01/05	10/03/05	19/04/05	16/05/05	26/06/05	23/07/05	16/08/05	15/09/05	28/10/05	15/11/05	14/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	13.89	14.04	14.25	14.27	14.26	14.27	13.79	14.30	12.82	12.70	10.42	10.21	12.31	14.40	16.01	14.94	15.03	13.42
Borehole depth to top of casing	m	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76
Top of casing relative to Ordnance Datum Level	m	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30
Water level relative to Ordnance Datum	m	46.41	46.26	46.05	46.03	46.04	46.03	46.51	46.00	47.48	47.60	49.88	50.09	47.99	45.90	44.29	45.36	45.27	46.88
Calculated purge volume	litres	116.88																	
Base of Well to Ordnance Datum	m	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54
Gas Concentrations																			
Date monitored	-	22/06/04	04/08/04	25/08/04	27/09/04	28/10/04	18/11/04	16/12/04	26/01/05	10/03/05	19/04/05	16/05/05	26/06/05	23/07/05	16/08/05	15/09/05	28/10/05	15/11/05	14/12/05
Time of measurement	-		11:10	1750hrs	9:00	15:00	11:35	13:30	15:15	12:00	2.59pm	12.40	2.30	16:31	1.41		11:38	15:15	14:39
Methane	% vol	32.1	58.5	53.7	46.9	46.4	46	45	45.9	49.6	36.1	21.1	9.2	8.1	<0.1	41.9	50.3	40.1	39.5
Carbon Dioxide	% vol	31.4	33.5	30.4	29	28.8	28.9	27.1	28	31.7	24.7	16.4	6.4	7.1	0.1	36.4	33	32.1	31.5
Oxygen	% vol	0.4	0.2	3.5	3.5	3.6	4.1	3.9	4.2	0.2	12.1	12.21	14.7	12.4	17.8	0.1	0.3	<0.1	<0.1
Atmospheric Pressure	mbar	1002	1010	1004	1007	1008	1009	1001	1027	1011	1028	1015	1010	1019	1019	1006	989	1001	1005
Gas Pressure	mbar	0.1	<0.1	2.7	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	0.1	1.1	0.1	2.1	1.1	1.4	-	0	0.1
Gas Flow Rate	l/hr	0.6		2.8	2.8	2.8	2.8	1.9	<0.1	1.1	0.1	1.3	0.1	1.1	0.1	0.1	-	<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units	6.71	6.68	6.73	6.7	6.25	6.31	6.65	6.39	6.57	6.4	7.29	7.26	7.29		4.1	7.3	6.8	6.52
Electrical Conductivity	µS/cm	2770	2699	3000	2998	3640	3580	3160	3710	2105	5320	3600	1231	3600		6220	17.2	2155	2525
Dissolved Oxygen	mg/l	5.9	5.8	5.7	5.5	19.6	12.4	16.2	18.8	10.1	1.1	18.2	11.2	18.2		18.6	8.27	8.3	2.29
Temperature	℃	13.3	11.4	13	12.8	11.6	11.9	9.6	9.7	10.4	10	10	10	10		14	12.1	11	11.2
Comment			Waited on re-charge x 3 nil														Half-filled sample		

Ground Level - 60.158 (March 2015)
Cover Level - 60.957 (March 2015)

Ground Level - 60.143 (May 2016)
Cover Level - 60.928 (May 2016)

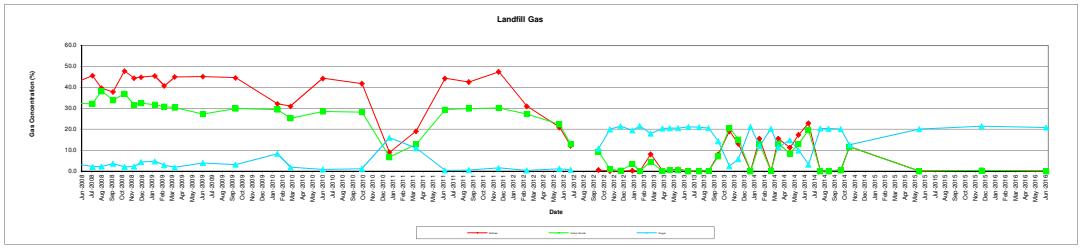


Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N31																								
Type Of Sample Required	Leachate	10/01/06	09/02/06	22/03/06	13/04/06	05/05/06	26/06/06	14/07/06	09/08/06	12/09/06	03/10/06	09/11/06	12/12/06	11/01/07	08/02/07	12/03/07	19/04/07	10/05/07	07/06/07	24/07/07	13/08/07	05/09/07	11/10/07	13/11/07	10/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	12.57	12.57	12.27	12.35	12.22	13.20	13.97	13.92	14.49	14.61	14.75	14.70	12.54	12.54	11.95	12.24	12.72	13.43	13.10	12.28	12.48	13.30	13.97	0.59
Borehole depth to top of casing	m	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76
Top of casing relative to Ordnance Datum Level	m	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30
Water level relative to Ordnance Datum	m	47.73	47.73	48.03	47.95	48.08	47.10	46.33	46.38	45.81	45.69	45.55	45.60	47.76	47.76	48.35	48.06	47.58	46.87	47.20	48.02	47.82	47.00	46.33	59.71
Calculated purge volume	litres						33	38	35	28	28	26	30.00	49.76	44	16	48	43	40	42	48	48	40	40	32
Base of Well to Ordnance Datum	m	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54
Gas Concentrations																									
Date monitored	-	10/01/06	09/02/06	22/03/06	13/04/06	05/05/06	26/06/06	14/07/06	09/08/06	12/09/06	03/10/06	09/11/06	12/12/06	11/01/07	08/02/07	12/03/07	19/04/07	10/05/07	07/06/07	24/07/07	13/08/07	05/09/07	11/10/07	13/11/07	10/12/07
Time of measurement	-	15:21	14:46	14:10	13:15	14:25	12:42	14:43	11:22	12:26	11:35	10:20	11:30	10:20	10:45	11:00	15:25	15:50	11:50	16:00	10:45	12:00	13:00	14:40	14:42
Methane	% vol	42.5	57.10	37.50	34.3	31.5	1.2	38.9	29.3	41.9	39.2	26.6	21.2	37.9	42.1	41.2	15.1	31.8	29.5	46.6	43.9	48.4	51.1	45.3	37.5
Carbon Dioxide	% vol	32.5	32.30	27.80	22.6	18.4	28.8	24.8	17.1	30.7	26.3	8.6	17.9	32.5	31.2	26.8	11.2	21.7	21.1	31.3	32.1	32.5	34.2	33.7	31.2
Oxygen	% vol	0.9	0.80	0.00	0.0	7.7	43.6	3.8	9.2	0.8	4.8	10.2	8.6	0.8	1.7	4.2	13.9	7.2	6.8	1.1	0.5	0.4	0.2	0.8	0.7
Atmospheric Pressure	mbar	988	1011	1005	982	1009	1009	1021	999	998	992	1020	989	970	987	1005	1011	989	1015	997	989	1015	1009	1000	1009
Gas Pressure	mbar	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.1	<0.1	0.1	<0.1	<0.1
Gas Flow Rate	l/hr	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units	6.53	6.48	6.42	6.05	6.15	6.76	6.42	6.24	6.41	6.43	6.58	6.51	6.42	6.49	6.33	6.32	6.22	6.26	6.08	6.43	6.24	6.18	6.25	6.28
Electrical Conductivity	µS/cm	1994	1766	1919	2035	20.7	1871	1985	1592	4200	4020	3920	4660	2464	2415	3720	2525	5230	2422	2343	2517	1497	1336	1704	2008
Dissolved Oxygen	mg/l	5.86	4.11	0.56	1.2	7.63	1.13	50.5	10.5	11.2	7.8	0.23	0.98	1.54	1.36	1.11	1.21	2.76	3.1	0.94	2.11	6.48	8.32	6.02	2.79
Temperature	℃	10.7	12.4	10.2	11.5	12.6	11.7	11.5	11.2	5.4	11.2	10.4	10.7	10.6	10.3	10.7	10.7	10.8	11.2	11	11.1	11.6	11.3	10.8	10.4
Comment			Purged liquid was clear then brown/ Broken switch on tap	Purged liquid was clear then brown/ Broken switch on tap	Purged liquid was clear then brown/ Broken switch on tap	Purged liquid was clear then brown/ Broken switch on tap	Purged liquid was clear then brown/ Broken switch on tap	Purged liquid was clear then brown/ Broken switch on tap	Purged liquid was clear then brown/ Broken switch on tap	Purged liquid was clear then brown/ Broken switch on tap	Purged liquid was clear then brown/ Broken switch on tap	Purged liquid was clear then brown/ Broken switch on tap			Broken Tap (venting)	Broken Tap (venting)	Broken Tap (venting)	Broken Tap (venting)	Broken Tap (venting)						

Ground Level - 60.158 (March 2015)
Cover Level - 60.957 (March 2015)

Ground Level - 60.143 (May 2016)
Cover Level - 60.928 (May 2016)

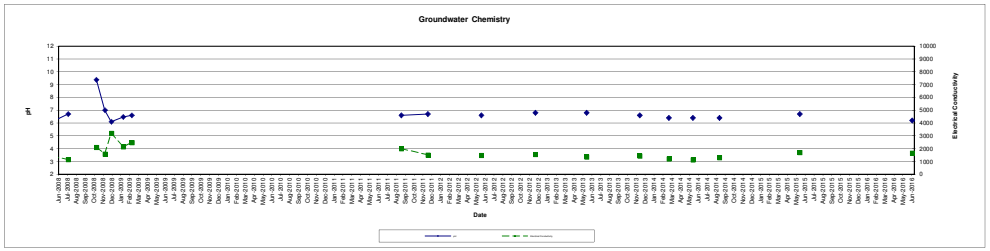


Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N31																		
Type Of Sample Required	Leachate	11/01/08	07/02/08	07/03/08	22/04/08	28/05/08	17/06/08	23/07/08	19/08/08	23/09/08	28/10/08	26/11/08	18/12/08	28/01/09	26/02/09	30/03/09	23/06/09	30/09/09	
Determinand	Units																		
Water Level																			
Water level to top of casing	m	13.89	13.62	12.10	12.74	12.34	12.71	13.44	13.78	17.39	13.38	13.10	12.26	12.08	11.71	11.94	13.31	11.91	
Borehole depth to top of casing	m	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	18.76	
Top of casing relative to Ordnance Datum Level	m	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	
Water level relative to Ordnance Datum	m	46.41	46.68	48.20	47.56	47.96	47.59	46.86	46.52	42.91	46.92	47.20	48.04	48.22	48.59	48.36	46.99	48.39	
Calculated purge volume	litres	34	41	53	48	51	48	43	40	11	43	45	52	53	56	55	44	55	
Base of Well to Ordnance Datum	m	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	41.54	
Gas Concentrations																			
Date monitored	-	11/01/08	07/02/08	07/03/08	22/04/08	28/05/08	17/06/08	23/07/08	19/08/08	23/09/08	28/10/08	26/11/08	18/12/08	28/01/09	26/02/09	30/03/09	23/06/2009	30/09/2009	
Time of measurement	-	15:20	14:30	11:45				00:00	16:59	07:12	06:57	02:09	02:52	13:26	06:43	13:47	13:58	12:21	
Methane	% vol	36.4	34.2	44.9	38.5	38.9	43.3	45.6	39.6	37.8	47.8	44.4	44.9	45.4	40.7	45.0	45.1	44.6	
Carbon Dioxide	% vol	30.9	29.7	32.0	0.9	30.4	32.3	32.1	38.2	33.9	36.9	31.6	32.5	31.7	30.8	30.3	27.3	29.8	
Oxygen	% vol	0.8	1.2	0.6	0.2	1.5	3.1	2.1	2.2	3.6	2.0	2.2	4.3	4.7	2.8	1.8	3.9	3.1	
Atmospheric Pressure	mbar	987	979	987	1009	1002	997	1006	980	1016	998	1009	999	1013	1009	1008	1022	1012	
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.07	0.00	0.05	-0.04	0.03	0.09	0.05	
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.30	<0.1	<0.1	<0.1	<0.1	<0.1	
Insitu Liquid Determinations																			
pH	pH units	6.41	6.53	6.57	6.9	6.6	6.3	6.7			9.37	7	6.11	6.48	6.6				
Electrical Conductivity	µS/cm	2600	2147	1860	1850	1590	1320	1160			2109	1590	3213	2151	2474				
Dissolved Oxygen	mg/l	3.25	3.48	4.96							0		0.14	0	0				
Temperature	℃	10	10.2	10.8	10	8	8	12			9.28	8	9.53	9.58	10.25				
Comment																			

Ground Level - 60.158 (March 2015)
Cover Level - 60.957 (March 2015)

Ground Level - 60.143 (May 2016)
Cover Level - 60.928 (May 2016)



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N31**				(Sept mon)	(Dec Mon)																				
Type Of Sample Required	Leachate	04/02/10	16/03/10	22/06/10	18/10/10	10/01/11	31/03/11	27/06/11	07/09/11	07/12/11	01/03/12	08/06/12	12/07/12	06/09/12	04/10/12	08/11/12	10/12/12	15/01/13	06/02/13	11/03/13	16/04/13	09/05/13	03/06/13	04/07/13	06/08/13	03/09/13
Determinand	Units																									
Water Level																										
Water level to top of casing	m	0.00	11.60	12.97	13.85	10.91	11.47	13.14	12.20	12.40	12.56	12.17	11.80		12.53		12.93	12.66	12.59	13.21	13.88	14.33	14.63	15	15.52	Dry
Borehole depth to top of casing	m	18.76	14.73	14.31	15.60	14.04	11.80		13.15	13.40	14.26	18.23	18.20		12.72		18.99	19.15	14.97	15.89	17.84	18.87	17.75	15.84	19.03	19.02
Top of casing relative to Ordnance Datum Level	m	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30	60.30		61.05		61.05	61.05	61.05	61.05	61.05	61.05	61.05	61.05	61.05	61.05
Water level relative to Ordnance Datum	m	60.30	48.70	47.33	46.45	49.39	48.83	47.16	48.10	47.90	47.74	48.13	48.50		48.52		48.12	48.39	48.46	47.84	47.17	46.72	46.42	46.05	45.53	
Calculated purge volume	litres	150																								
Base of Well to Ordnance Datum	m	41.54	45.57	45.99	44.70	46.26	48.50	60.30	47.15	46.90	46.04	42.07	42.10		48.33		42.06	41.90	46.08	45.16	43.21	42.18	43.30	45.21	42.02	42.03
Gas Concentrations																										
Date monitored	-	04/02/2010	16/03/2010	22/06/2010	18/10/2010	10/01/2011	31/03/11	27/06/2011	07/09/11	07/12/12	01/03/12	08/06/12	12/07/12		04/10/12	08/11/12	10/12/12	15/01/13	06/02/13	11/03/13	16/04/13	09/05/13	03/06/13	04/07/13	06/08/13	03/09/13
Time of measurement	-	06:14	14:40	12:14	14:50	14:10	12:50	10:10	12:18	12:42	15:25	12:31	10:40		15:51	14:03	10:30	11:00	11:15	09:35	11:10	11:13	14:52	15:49	15:16	11:32
Methane	% vol	32.1	31.0	44.3	41.8	8.9	19.1	44.3	42.5	47.4	31.0	20.9	12.1		0.5	0.1	<0.1	0.2	<0.1	8.1	0.2	0.7	0.9	<0.1	0.2	0.1
Carbon Dioxide	% vol	29.4	25.3	28.5	28.2	6.7	12.7	29.3	29.9	30.2	27.2	22.4	12.9		9.3	1.0	0.2	3.5	0.1	4.4	0.1	0.5	0.5	<0.1	<0.1	0.1
Oxygen	% vol	8.3	1.8	0.8	1.1	16.0	11.0	0.4	0.5	1.5	0.4	1.1	0.7		10.7	20.0	21.4	19.5	21.6	17.9	20.4	20.5	20.5	21.1	21	20.5
Atmospheric Pressure	mbar	1007	1012	1012	1001	995	983	1008	991	989	1018	989	1003		996	1004	1021	1007	1006	1016	987	994	1027	1005	1005	1015
Gas Pressure	mbar	-0.03	0.07	0.08	0.03	-0.16		-0.04	<0.01	-0.34	0.05	-0.18	0.09		0.16	0.27	-0.24	-0.12	0.03	-0.12	0.35	0.3	0.14	0.02	-0.25	0.01
Gas Flow Rate	l/hr	0.00	-0.2	+/-0.1	0.1	+/-0.1		0.5	-0.2	-0.4	0.1	<0.1	<0.1		<0.1	<0.1	0.1	-0.2	0.1	0.1	0.1	0.1	0.1	0.2	<0.1	-0.1
Insitu Liquid Determinations																										
pH	pH units								6.6	6.7		6.6					6.8						6.8			
Electrical Conductivity	µS/cm								2000	1520		1490					1560						1370			
Dissolved Oxygen	mg/l								2.2	5.5		4.8					2.2						0.5			
Temperature	℃		9.9	11.7	13.4				11.0	7.9							8.8			13.2			12.8			
Comment							Tap Seized Open							Position could not be monitored due to ongoing works	Headworks and cover level amended to suit capping level	Very soft sediment at base of borehole	Tap above lid. Very soft sediment at base	Tap above lid. Very soft sediment at base of borehole.	Tap above lid. Very soft sediment at base of borehole.	Tap above lid. Very muddy at base, not possible to gauge level/depth.	Bung not seated properly	Bung not seated properly and tap above lid	Tap above lid requires attention	Depth hard to measure due to very soft sediment. Tap above lid		Tap above lid & bung fitlings require replacing.

Ground Level - 60.158 (March 2015)
Cover Level - 60.957 (March 2015)

Ground Level - 60.143 (May 2016)
Cover Level - 60.928 (May 2016)

Ness Farm Landfill
Field Monitoring Sheet

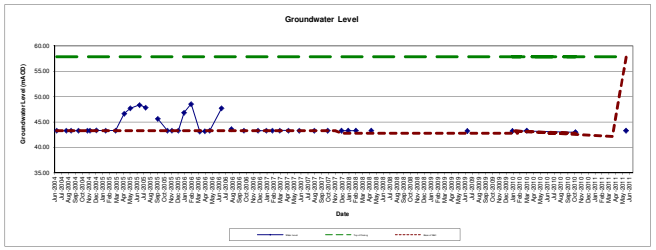
Sampling Location	**N31**																		
Type Of Sample Required	Leachate	02/10/13	05/11/13	02/12/13	08/01/14	04/02/14	11/03/14	02/04/14	07/05/14	02/06/14	02/07/14	07/08/14	01/09/14	08/10/14	03/11/14	03/06/15	10/12/15	22/06/16
Determinand	Units																		
Water Level																			
Water level to top of casing	m	16.74	17.34	17.37	16.35	14.35	13.74	13.77	14.48	14.91	15.47	16.46	17.23		17.85	16.05	15.49	14.71
Borehole depth to top of casing	m	19.05	19.05	19.05	19.06	19.11	19.16	19.24	19.24	19.44	17.84	19.22	19.3		19.33	19.22	19.23	19.42
Top of casing relative to Ordnance Datum Level	m	61.05	61.05	61.05	61.05	61.05	60.99	60.99	60.99	60.99	60.99	60.99	60.99		60.99	60.99	60.99	60.93
Water level relative to Ordnance Datum	m	44.31	43.71	43.68	44.70	46.70	47.25	47.22	46.51	46.08	45.52	44.53	43.76		43.14	44.94	45.50	46.22
Calculated purge volume	litres																		
Base of Well to Ordnance Datum	m	42.00	42.00	42.00	41.99	41.94	41.83	41.75	41.75	41.55	43.15	41.77	41.69		41.66	41.77	41.76	41.51
Gas Concentrations																			
Date monitored	-	02/10/13	05/11/13	02/12/13	08/01/14	04/02/14	11/03/14	02/04/14	07/05/14	02/06/14	02/07/14	07/08/14	01/09/14	08/10/14	03/11/14	03/06/15	10/12/15	22/06/16
Time of measurement	-	12:28	10:48	12:33	11:03	11:46	12:00	12:26	10:10	13:13	12:10	11:44	14:11	13:44	15:31	11:55	13:26	10:40
Methane	% vol	8	19.1	13	0.1	15.5	<0.1	15.5	11.2	17.3	22.8	<0.1	<0.1	0.6	11.6	<0.1	0.4	<0.1
Carbon Dioxide	% vol	7.1	20.6	15.1	<0.1	12.9	0.1	13.1	8.4	12.9	19.6	<0.1	<0.1	0.4	11.7	<0.1	0.3	<0.1
Oxygen	% vol	14.3	2.3	5.8	21.2	12	20.3	11.5	14.8	9.9	3.2	20.4	20.3	20.1	12.5	20.1	21.5	20.8
Atmospheric Pressure	mbar	1008	983	1024	995	986	978	1006	994	1009	1008	1007	1013	985	979	1008	1004	1008
Gas Pressure	mbar	-0.2	0.28	0.46	-0.13	-0.01	0.03	0.05	-0.07	-0.22	0.27	-0.06	-0.13	0.04	0.15	-0.18	-0.17	-0.07
Gas Flow Rate	l/hr	-0.4	<0.1	-0.2	-0.1	<0.1	0.1	<0.1	0.2	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	-0.3	0.2	-0.1
Insitu Liquid Determinations																			
pH	pH units			6.6			6.4			6.4			6.4			6.7		6.2
Electrical Conductivity	µS/cm			1430			1220			1140			1310			1710		1650
Dissolved Oxygen	mg/l			< 1.0			0.8									3.5		1.2
Temperature	℃			9.1			12.8			15.2			13.3			16		14.1
Comment			Very muddy at bottom of sampling pipe	Very muddy at bottom of sampling pipe.										Depth and level not reported as it appears that the probe may have caught on a inner rim of the borehole. OK.		Very spongy at base.	Very spongy at base.	Very spongy.

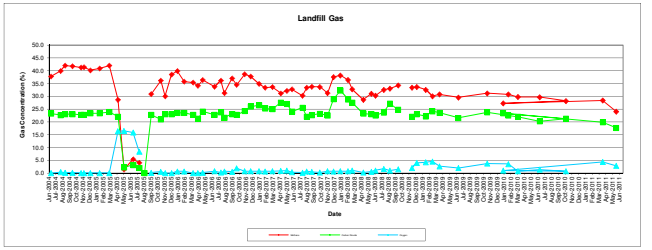
Ground Level - 60.158 (March 2015)
Cover Level - 60.957 (March 2015)

Ground Level - 60.143 (May 2016)
Cover Level - 60.928 (May 2016)

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N32																		
Type Of Sample Required	None	22/06/04	04/08/04	25/08/04	27/09/04	05/11/04	17/11/04	16/12/04	26/01/05	11/03/05	19/04/05	16/05/05	26/06/05	23/07/05	16/08/05	15/09/05	28/10/05	16/11/05	15/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	14.51	14.51	14.51	14.51	14.51	14.49	14.45	14.50	14.49	11.16	10.11	9.46	10.01		12.21	14.50	14.51	14.50
Borehole depth to top of casing	m	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05
Top of casing relative to Ordnance Datum Level	m	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84
Water level relative to Ordnance Datum	m	43.33	43.33	43.33	43.33	43.33	43.35	43.39	43.34	43.35	46.68	47.73	48.38	47.83		45.63	43.34	43.33	43.34
Calculated purge volume	litres																		
Base of Well to Ordnance Datum	m	43.29	43.29	43.29	43.29	43.29	43.29	43.29	43.29	43.29	43.29	43.29	43.29	43.29	43.29	43.29	43.29	43.29	43.29
Gas Concentrations																			
Date monitored	-	22/06/04	04/08/04	25/08/04	27/09/2004	05/11/2004	17/11/2004	16/12/2004	26/01/2005	11/03/2005	19/04/2005	16/05/2005	26/06/2005	23/07/2005	16/08/2005	15/09/2005	28/10/2005	16/11/2005	15/12/2005
Time of measurement	-		11:16	07:40	11:30	12:30	10:40	10:10	15:25	11:00	15:40	13.30	3.55	17:01		12:35	15:49	10:46	15:51
Methane	% vol	37.8	39.9	42	41.8	41.3	41.4	40.2	40.9	42	28.7	1.4	5.4	4.1		30.9	36.1	30.1	38.5
Carbon Dioxide	% vol	23.3	22.7	23	23.1	22.8	22.8	23.4	23.4	23.9	22.1	2.3	3.2	2.1		22.8	21	23.1	23
Oxygen	% vol	<0.1	0.4	0.2	0.2	0.1	0.1	0.1	0.1	0.1	16.4	16.5	15.9	8.4		0.2	0.6	<0.1	<0.1
Atmospheric Pressure	mbar	1002	1010	1001	1007	1008	1012	993	1027	1012	1028	1016	1010	1019		1013	990	1004	1005
Gas Pressure	mbar	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	0.2	1.4	<0.1	1.1	<0.1		-		5	3.7
Gas Flow Rate	l/hr	1.3		2.8	2.8	2.8	2.9	1.4	<0.1	1.3	1.1	<0.1	0.1	<0.1		0.2		0.2	0.2
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment																			





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N32**																								
Type Of Sample Required	None	10/01/06	10/02/06	21/03/06	12/04/06	04/05/06	26/06/06	24/07/06	09/08/06	12/09/06	03/10/06	08/11/06	05/12/06	11/01/07	07/02/07	12/03/07	19/04/07	16/05/07	07/06/07	25/07/07	13/08/07	05/09/07	11/10/07	14/11/07	11/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	10.97	9.27	14.70	14.65	14.51	10.10	DRY	14.22	DRY	14.52	DRY	14.51	14.51	14.51	14.49	14.49	DRY	14.53	DRY	14.53	DRY	14.53	DRY	14.53
Borehole depth to top of casing	m	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05
Top of casing relative to Ordnance Datum Level	m	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84
Water level relative to Ordnance Datum	m	46.87	48.57	43.14	43.19	43.33	47.74		43.62		43.32		43.33	43.33	43.33	43.35	43.35		43.31		43.31		43.31		43.31
Calculated purge volume	litres																								
Base of Well to Ordnance Datum	m	43.29	43.29	43.29	43.29	43.29	43.29	43.29	43.29	43.29	43.29	43.29	43.29	43.29	43.29	43.29	43.29	43.29	43.29	43.29	43.29	43.29	43.29	43.29	42.79
Gas Concentrations																									
Date monitored	-	10/01/2006	10/02/2006	21/03/2006	12/04/2006	04/05/2006	26/06/2006	24/07/2006	09/08/2006	12/09/2006	03/10/2006	08/11/2006	05/12/2006	11/01/2007	07/02/2007	12/03/2007	19/04/2007	16/05/2007	07/06/2007	25/07/2007	13/08/2007	05/09/2007	11/10/2007	14/11/2007	11/12/2007
Time of measurement	-	14:15	14:40	15:46	14:11	12:06	15:56	13:26	13:28	11:48	13:25	14:53	14:08	11:32	12:00	15:20	15:07	15:17	14:05	14:32	13:07	14:01	10:46	13:15	11:03
Methane	% vol	39.9	35.80	35.40	34.1	36.4	33.8	36.2	31.3	37.0	34.5	38.6	37.8	34.9	33.4	33.6	31.2	32.2	32.8	30.3	33.4	33.8	33.7	31.3	37.5
Carbon Dioxide	% vol	23.5	23.60	22.80	21.3	24.1	22.8	23.8	21.7	23.1	22.8	24.3	26	26.5	25.3	25.0	27.6	27.1	24.0	25.6	22.0	22.7	23.2	22.5	28.9
Oxygen	% vol	0.7	0.70	0.00	0.0	0.2	0.8	0.3	0.7	0.6	1.9	0.8	0.8	0.8	0.7	0.8	0.9	1.0	0.4	0.2	0.7	0.5	0.3	0.8	0.7
Atmospheric Pressure	mbar	990	1014	1010	995	1009	1008	1006	997	999	992	1002	968	969	994	1003	1010	999	1016	994	989	1015	1009	1008	1021
Gas Pressure	mbar	0	0.8	0.2	0.1	1.3	<0.1	5.1	<0.1	1.8	<0.1		4.5							<0.1	0.1	<0.1	<0.1	<0.1	0.2
Gas Flow Rate	l/hr	0.5	0.3	0.2	<0.1	0.2	0.2	<0.1	<0.1	<0.1	<0.1		<0.1							<0.1	0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	ºC																								
Comment			Casing Not Marked	Casing Not Marked / Hole depth changed (possible blockage before)	Casing Not Marked	Casing Not Marked	Casing Not Marked	Broken Valve/ Venting	Broken Valve/ Venting			Broken valve, stuck shut		Broken valve, stuck shut	Broken valve, stuck shut	Broken valve, stuck shut	Broken valve, stuck shut	Broken valve, stuck shut	Broken valve, stuck shut						

Ness Farm Landfill
Field Monitoring Sheet

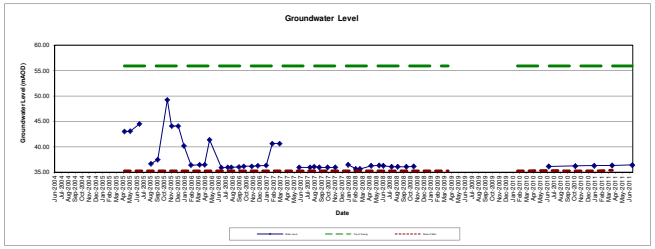
Sampling Location	**N32**																	
Type Of Sample Required	None	11/01/08	14/02/08	04/03/08	22/04/08	28/05/08	16/06/08	23/07/08	19/08/08	26/09/08	28/10/08	26/11/08	18/12/08	28/01/09	26/02/09	30/03/09	23/06/09	30/10/09
Determinand	Units																	
Water Level																		
Water level to top of casing	m	14.52	14.53	DRY	14.51	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	14.55	DRY
Borehole depth to top of casing	m	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05
Top of casing relative to Ordnance Datum Level	m	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84	57.84
Water level relative to Ordnance Datum	m	43.32	43.31		43.33												43.29	
Calculated purge volume	litres																4	120
Base of Well to Ordnance Datum	m	42.79	42.79	42.79	42.79	42.79	42.79	42.79	42.79	42.79	42.79	42.79	42.79	42.79	42.79	42.79	42.79	42.79
Gas Concentrations																		
Date monitored	-	11/01/2008	14/02/2008	04/03/2008	22/04/2008	28/05/2008	16/06/2008	23/07/2008	19/08/2008	26/09/2008	28/10/2008	26/11/2008	18/12/2008	28/01/2009	26/02/2009	30/03/2009	23/06/2009	30/10/2009
Time of measurement	-	14:05	12:20	13:30				00:00	16:16	05:16		02:52	07:40	05:16	05:16	12:37	10:34	13:04
Methane	% vol	38.2	36.4	32.8	28.7	31	30.3	32.6	33.0	34.3		33.4	33.7	32.6	30.1	30.8	29.6	31.2
Carbon Dioxide	% vol	32.3	28.8	27.5	23.3	23	22.5	23.7	27.2	24.8		22.1	23.0	22.2	24.2	23.6	21.6	23.8
Oxygen	% vol	0.8	0.8	1.1	0.3	0.6	1.1	1.7	1.0	1.5		2.1	4.0	4.3	4.6	2.7	2.0	3.8
Atmospheric Pressure	mbar	987	1005	1020	1009	1004	996	1007	980	1015		1010	999	1013	1013	1008	1025	1016
Gas Pressure	mbar	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	0.2	<0.1	<0.1		0.18	0.74	0.12	0.12	0.10	0.08	0.12
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	0.6	<0.1	0.2	<0.1	0.4		0.40	0.10	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																		
pH	pH units																	
Electrical Conductivity	µS/cm																	
Dissolved Oxygen	mg/l																	
Temperature	ºC																	
Comment											Equipment Failure							

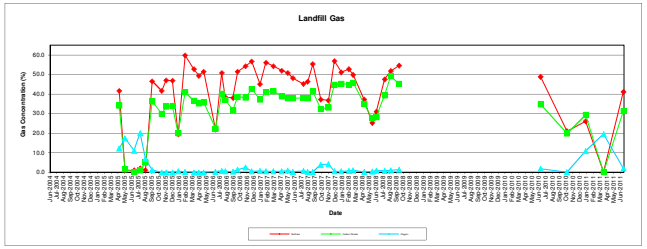
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N32**				(Sept mon)	(Dec Mon)			Well removed as part of Phase 3 Restoration Works
Type Of Sample Required	None	02/02/10	16/03/10	22/06/10	18/10/10	10/01/10	31/03/11	31/05/11	
Determinand	Units								
Water Level									
Water level to top of casing	m	DRY	14.52	Dry	14.85	14.55	Dry	14.52	
Borehole depth to top of casing	m	15.05	14.59	14.58	14.70	14.60	15.68		
Top of casing relative to Ordnance Datum Level	m	57.84	57.84	57.84	57.84	57.84	57.84	57.84	
Water level relative to Ordnance Datum	m		43.32		42.99	43.29		43.32	
Calculated purge volume	litres	120							
Base of Well to Ordnance Datum	m	42.79		42.79	42.79	43.24	42.16	57.84	
Gas Concentrations									
Date monitored	-	02/02/2010	16/03/2010	22/06/2010	18/10/2010	10/01/2011	31/03/11	28/06/2011	
Time of measurement	-	01:40	13:30	11:03	13:35	12:30	13:40	09:21	
Methane	% vol	30.8	29.8	29.7	28.2	27.3	28.4	24.1	
Carbon Dioxide	% vol	22.5	22.0	20.3	21.3	23.4	19.9	17.7	
Oxygen	% vol	3.6	0.8	1.4	0.8	1.0	4.4	2.9	
Atmospheric Pressure	mbar	1003	1013	1013	1001	997	983	1012	
Gas Pressure	mbar	0.14	0.14	0.07	-0.21	0.07	-0.06	0.05	
Gas Flow Rate	l/hr	0.00	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	
Insitu Liquid Determinations									
pH	pH units								
Electrical Conductivity	µS/cm								
Dissolved Oxygen	mg/l								
Temperature	ºC								
Comment						Insufficient to sample	Dry or Blocked, no sample taken	Sludge at base of well - no samples taken	

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N33																		
Type Of Sample Required	None	22/06/04	04/08/04	25/08/04	27/04/09	05/11/04	18/11/04	16/12/04	26/01/05	11/03/05	20/04/05	16/05/05	26/06/05	23/07/05	16/08/05	15/09/05	28/10/05	16/11/05	15/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m										12.90	12.81	11.40		19.21	18.41	6.64	11.83	11.79
Borehole depth to top of casing	m										20.65	20.65	20.65	20.65	20.65	20.65	20.65	20.65	20.65
Top of casing relative to Ordnance Datum Level	m										55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90
Water level relative to Ordnance Datum	m										43.00	43.09	44.50		36.69	37.49	49.26	44.07	44.11
Calculated purge volume	litres																		
Base of Well to Ordnance Datum	m										35.25	35.25	35.25	35.25	35.25	35.25	35.25	35.25	35.25
Gas Concentrations																			
Date monitored	-	22/06/04	04/08/04	25/08/04	27/04/2009	05/11/2004	18/11/2004	16/12/2004	26/01/2005	11/03/2005	20/04/2005	16/05/2005	26/06/2005	23/07/2005	16/08/2005	15/09/2005	28/10/2005	16/11/2005	15/12/2005
Time of measurement	-										7.26am	14.50	5.00	17:41	2.31	12:40	15:49	10:29	15:54
Methane	% vol										41.6	1.1	1.1	2.1	1.1	46.6	41.6	47	46.8
Carbon Dioxide	% vol										34.1	1.6	0.1	1.1	5	36.3	29.8	33.6	33.9
Oxygen	% vol										12.2	17.5	11.1	20.1	6.9	1.2	<0.1	<0.1	<0.1
Atmospheric Pressure	mbar										1030	1019	1010	1019	1019	1013	990	1005	1005
Gas Pressure	mbar										1.4	<0.1	1.3	1.3	<0.1			0.5	1
Gas Flow Rate	l/hr										2.4	<0.1	1.1	1.1	<0.1	0.2		0.1	0.1
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment		Could not access, lock ceased	Could not access, no key	Unable to break padlock	Unable to break padlock	Unable to break padlock	Unable to break padlock	Unable to break padlock	Unable to break padlock	Unable to Break Padlock									





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N33**																								
Type Of Sample Required	None	10/01/06	10/02/06	21/03/06	12/04/06	04/05/06	26/06/06	24/07/06	09/08/06	12/09/06	03/10/06	08/11/06	05/12/06	11/01/07	07/02/07	12/03/07	19/04/07	16/05/07	07/06/07	25/07/07	13/08/07	05/09/07	11/10/07	14/11/07	11/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	15.72	19.50	19.42	19.45	14.51	20.02	19.93	19.96	19.84	19.71	19.71	19.61	19.58	15.25	15.25	DRY	DRY	19.92	19.92	19.81	19.94	19.93	19.95	DRY
Borehole depth to top of casing	m	20.65	20.65	20.65	20.65	20.65	20.65	20.65	20.65	20.65	20.65	20.65	20.65	20.65	20.65	20.65	20.65	20.65	20.65	20.65	20.65	20.65	20.65	20.65	20.65
Top of casing relative to Ordnance Datum Level	m	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90
Water level relative to Ordnance Datum	m	40.18	36.40	36.48	36.45	41.39	35.88	35.97	35.94	36.06	36.19	36.19	36.29	36.32	40.65	40.65			35.98	35.98	36.09	35.96	35.97	35.95	
Calculated purge volume	litres																								
Base of Well to Ordnance Datum	m	35.25	35.25	35.25	35.25	35.25	35.25	35.25	35.25	35.25	35.25	35.25	35.25	35.25	35.25	35.25	35.25	35.25	35.25	35.25	35.25	35.25	35.25	35.25	35.25
Gas Concentrations																									
Date monitored	-	10/01/2006	10/02/2006	21/03/2006	12/04/2006	04/05/2006	26/06/2006	24/07/2006	09/08/2006	12/09/2006	03/10/2006	08/11/2006	05/12/2006	11/01/2007	07/02/2007	12/03/2007	19/04/2007	16/05/2007	07/06/2007	25/07/2007	13/08/2007	05/09/2007	11/10/2007	14/11/2007	11/12/2007
Time of measurement	-	14:07	14:51	15:56	14:07	12:16	16:04	13:17	13:21	11:40	13:35	14:59	13:55	11:25	11:45	15:10	15:00	15:10	14:15	14:40	13:15	14:13	10:57	13:25	11:05
Methane	% vol	19.4	59.80	52.80	49.4	51.5	21.8	50.8	38.3	38.1	51.4	54.3	56.7	45.1	56.1	54.3	52.0	50.8	48.1	45.2	46.4	55.3	37.2	36.8	56.9
Carbon Dioxide	% vol	20	40.90	36.50	35.2	35.7	22.4	40.1	37.1	31.7	38.6	38.2	42.6	37.2	41.0	41.5	38.9	37.9	37.9	38.0	37.8	41.3	32.3	33.2	44.7
Oxygen	% vol	0.5	0.30	0.00	0.0	0.0	0.3	0.8	0.5	0.4	1.4	2.5	0.5	0.7	0.6	0.5	0.5	0.9	0.3	0.7	0.3	0.2	3.9	4.2	0.5
Atmospheric Pressure	mbar	990	1015	1010	995	1009	1008	1006	997	1000	992	1003	968	970	995	1003	1010	999	1015	994	989	1015	1009	1008	1024
Gas Pressure	mbar	0.6	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	+0.2	<0.1	<0.1	<0.1	0.2	<0.1	0.1	<0.1	<0.1
Gas Flow Rate	l/hr	0.9	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.9	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units														Full Of	Full Of	Full Of	Full Of							
Electrical Conductivity	µS/cm														Mud From	Mud From	Mud From	Mud From							
Dissolved Oxygen	mg/l														(15.25)	-15.25	-15.25	-15.25							
Temperature	ºC																								
Comment			Broken Switch On Tap	Broken Switch On Tap	Broken Switch On Tap	Broken Switch On Tap	Broken Switch On Tap	Broken Switch On Tap	Broken Switch On Tap	Broken Switch On Tap	Broken Switch On Tap	Broken Switch On Tap	Broken Switch On Tap			Broken Tap (venting)	Broken Tap (venting)	Broken Tap (venting)	Broken Tap (venting)	Broken Tap (venting)						

Ness Farm Landfill
Field Monitoring Sheet

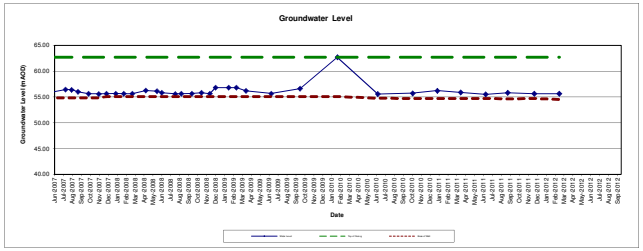
Sampling Location	**N33**																	
Type Of Sample Required	None	11/01/08	14/02/08	04/03/08	22/04/08	28/05/08	16/06/08	23/07/08	19/08/08	26/09/08	28/10/08	26/11/08	18/12/08	28/01/09	26/02/09	30/03/09	23/06/09	30/10/09
Determinand	Units																	
Water Level																		
Water level to top of casing	m	19.45	20.23	20.25	19.61	19.56	19.61	19.81	19.83	19.81	19.76	DRY	DRY	DRY	DRY	DRY		
Borehole depth to top of casing	m	20.65	20.65	20.65	20.65	20.65	20.65	20.65	20.65	20.65	20.65	20.65	20.65	20.65	20.65	20.65		
Top of casing relative to Ordnance Datum Level	m	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90	55.90		
Water level relative to Ordnance Datum	m	36.45	35.67	35.65	36.29	36.34	36.29	36.09	36.07	36.09	36.14							
Calculated purge volume	litres							6.72	6.56	6.72	7.12							
Base of Well to Ordnance Datum	m	35.25	35.25	35.25	35.25	35.25	35.25	35.25	35.25	35.25	35.25	35.25	35.25	35.25	35.25	35.25		
Gas Concentrations																		
Date monitored	-	11/01/2008	14/02/2008	04/03/2008	22/04/2008	28/05/2008	16/06/2008	23/07/2008	19/08/2008	26/09/2008								
Time of measurement	-	14:14	12:30	13:40				00:00	16:25	06:43								
Methane	% vol	51.2	52.8	49.8	37.2	25.3	31.0	47.6	51.7	54.6								
Carbon Dioxide	% vol	45.3	44.8	45.8	35	27.5	28.3	39.4	49.2	45.3								
Oxygen	% vol	0.6	0.7	1.0	0.2	0.4	0.9	0.8	1.0	1.4								
Atmospheric Pressure	mbar	987	1005	1020	1009	1003	997	1008	980	1016								
Gas Pressure	mbar	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	0.1	<0.1	<0.1								
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1								
Insitu Liquid Determinations																		
pH	pH units																	
Electrical Conductivity	µS/cm																	
Dissolved Oxygen	mg/l																	
Temperature	℃																	
Comment											Equipment Failure	Equipment Failure	SEIZED	SEIZED	SEIZED	SEIZED	SEIZED	SEIZED

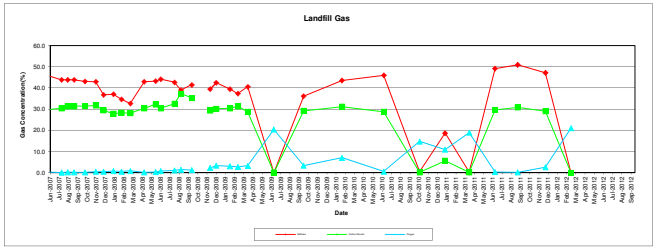
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N33**			**(Sept mon)**	(Dec Mon)			Well removed as part of Phase 3 Restoration Works
Type Of Sample Required	None	02/02/10	22/06/10	18/10/10	10/01/11	31/03/11	28/06/11	
Determinand	Units							
Water Level								
Water level to top of casing	m		19.74	19.65	19.60	19.55	19.46	
Borehole depth to top of casing	m	20.65	20.57	20.65	20.64	20.50		
Top of casing relative to Ordnance Datum Level	m	55.90	55.90	55.90	55.90	55.90	55.90	
Water level relative to Ordnance Datum	m		36.16	36.25	36.30	36.35	36.44	
Calculated purge volume	litres							
Base of Well to Ordnance Datum	m	35.25	35.33	35.25	35.26	35.40		
Gas Concentrations								
Date monitored	-		22/06/2010	18/10/2010	10/01/2011	31/03/11	28/06/2011	
Time of measurement	-		10:11	13:40	12:40	13:45	09:11	
Methane	% vol		48.9	21.00	26.1	0.2	41.2	
Carbon Dioxide	% vol		34.7	19.80	29.3	0.1	31.3	
Oxygen	% vol		1.9	0.10	10.9	19.5	2.0	
Atmospheric Pressure	mbar		1014	1001	997	983	1013	
Gas Pressure	mbar		+/-0.01	-0.01	0.1	-0.08	0.06	
Gas Flow Rate	l/hr		+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	
Insitu Liquid Determinations								
pH	pH units							
Electrical Conductivity	µS/cm							
Dissolved Oxygen	mg/l							
Temperature	ºC		18.8					
Comment		SIEZED	Spot sample taken				Sludge at base of well - no samples taken	

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N34																		
Type Of Sample Required	None	22/06/04	05/08/04	26/08/04	27/09/04	05/11/04	17/11/04	16/12/04	26/01/05	10/03/05	20/04/05	16/05/05	26/06/05	23/07/05	16/08/05	15/09/05	28/10/05	15/11/05	07/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	Dry	Dry	7.09	7.08	7.85	7.86	6.50	7.86	6.71	6.20	6.18	6.21	Dry	6.94	7.65	7.24	7.06	6.35
Borehole depth to top of casing	m	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68
Top of casing relative to Ordnance Datum Level	m	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73
Water level relative to Ordnance Datum	m			55.64	55.65	54.88	54.87	56.23	54.87	56.02	56.53	56.55	56.52		55.79	55.08	55.49	55.67	56.38
Calculated purge volume	litres																		
Base of Well to Ordnance Datum	m	54.84	54.84	54.84	54.84	54.84	54.84	54.84	54.84	54.84	54.84	54.84	54.84	54.84	54.84	54.84	54.84	54.84	54.84
Gas Concentrations																			
Date monitored	-	22/06/04	05/08/04	26/08/04	27/09/2004	05/11/2004	17/11/2004	16/12/2004	26/01/2005	10/03/2005	20/04/2005	16/05/2005	26/06/2005	23/07/2005	16/08/2005	15/09/2005	28/10/2005	15/11/2005	07/12/2005
Time of measurement	-		12:40	0800hrs	11:40	09:30	10:45	10:50	15:35	11:50	8.29am	16.20	6.30	18:20	3.20	13:00	11:36	14:46	13:51
Methane	% vol	28.9	27.9	39.6	39.6	31	31.1	46.5	31	50.7	38.5	29	6.2	4.3	<0.1	0.3	38.3	37.1	40.5
Carbon Dioxide	% vol	19.7	20.2	28.8	28.7	23.2	23.4	32.1	23.6	30.5	31.1	21.6	3.1	1.1	<0.1	0.2	29.7	27.9	27.7
Oxygen	% vol	3.0	2.8	1.9	1.9	6	6.2	0.3	7.7	<0.1	19.4	15.4	17.8	11.6	10.1	20.2	0.5	<0.1	0.9
Atmospheric Pressure	mbar	1001	1015	1010	1008	10.1	1012	973	1027	1011	1028	1019	1010	1019	1019	1013	989	1000	1004
Gas Pressure	mbar	0.0		8.1	8	7.9	7.6	<0.1	0.8	<0.1	0.1	1.1	<0.1	<0.1	1.1	Not recorded		1.3	8.2
Gas Flow Rate	l/hr	0.7		2.9	2.9	2.8	2.8	1.4	<0.1	1	<0.1	1.2	<0.1	1.1	0.1	0.3		0.2	<0.1
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment																			





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N34**																								
Type Of Sample Required	None	11/01/06	09/02/06	20/03/06	13/04/06	05/05/06	27/06/06	14/07/06	09/08/06	12/09/06	03/10/06	07/11/06	05/12/06	10/01/07	07/02/07	12/03/07	18/04/07	21/05/07	07/06/07	24/07/07	13/08/07	04/09/07	10/10/07	14/11/07	10/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	6.14	6.56	4.99	4.97	6.32	6.34	7.04	6.95	6.94	7.27	6.48	DRY	6.58	6.58	6.50	6.50	6.83	6.80	6.30	6.31	6.70	7.10	7.12	7.08
Borehole depth to top of casing	m	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68
Top of casing relative to Ordnance Datum Level	m	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73
Water level relative to Ordnance Datum	m	56.59	56.17	57.74	57.76	56.41	56.39	55.69	55.78	55.79	55.46	56.25		56.15	56.15	56.23	56.23	55.90	55.93	56.43	56.42	56.03	55.63	55.61	55.65
Calculated purge volume	litres																								
Base of Well to Ordnance Datum	m	54.84	54.84	54.84	54.84	54.84	54.84	54.84	54.84	54.84	54.84	54.84	54.84	54.84	54.84	54.84	54.84	54.84	54.84	54.84	54.84	54.84	54.84	54.84	55.05
Gas Concentrations																									
Date monitored	-	11/01/2006	09/02/2006	20/03/2006	13/04/2006	05/05/2006	27/06/2006	14/07/2006	09/08/2006	12/09/2006	03/10/2006	07/11/2006	05/12/2006	10/01/2007	07/02/2007	12/03/2007	18/04/2007	21/05/2007	07/06/2007	24/07/2007	13/08/2007	04/09/2007	10/10/2007	14/11/2007	10/12/2007
Time of measurement	-	10:25	16:00	12:55	10:44	14:50	10:26	15:05	11:57	12:43	12:19	12:20	15:30	16:00	13:35	16:10	13:30	12:00	10:47	16:22	11:47	12:57	15:00	15:30	15:07
Methane	% vol	48.4	44.60	47.10	44.3	47.1	46.2	45.1	44.6	41.6	34.5	39.8	41.2	37.7	36.9	37.2	36.8	43.6	45.9	43.9	43.9	43.8	43.1	42.9	36.7
Carbon Dioxide	% vol	28.2	28.30	29.30	27.8	28.0	27.3	29.4	36.1	25.3	28.2	31.0	30.6	29.6	29.7	28.4	27.2	29.7	29.8	30.4	31.4	31.4	31.5	31.8	29.5
Oxygen	% vol	0.8	0.80	0.00	0.0	0.0	0.0	0.4	3.2	4.5	1.9	0.8	0.7	0.8	1.1	1.5	1.1	0.4	0.3	0.1	0.3	0.2	0.2	0.5	0.5
Atmospheric Pressure	mbar	997	1011	1013	982	1008	1012	1022	1000	998	992	1004	967	997	995	1003	1003	1008	1017	997	988	1015	1016	1009	1009
Gas Pressure	mbar	0.6	<0.1	<0.1	<0.1	0.7	0.6	1.8	0.8	0.8	<0.1	1.4	0.6	0.8	0.7	0.4	0.2	0.7	3.9	<0.1	<0.1	<0.1	<0.1	<0.1	0.5
Gas Flow Rate	l/hr	0.3	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment																									

Ness Farm Landfill
Field Monitoring Sheet

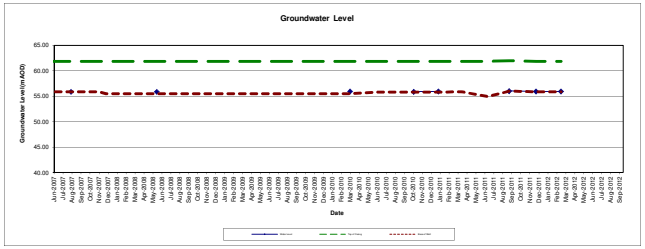
Sampling Location	**N34**																	
Type Of Sample Required	None	11/01/08	07/02/08	07/03/08	22/04/08	30/05/08	16/06/08	31/07/08	21/08/08	26/09/08	29/10/08	26/11/08	16/12/08	30/01/09	25/02/09	30/03/09	24/06/09	30/09/09
Determinand	Units																	
Water Level																		
Water level to top of casing	m	7.05	7.07	7.08	6.46	6.61	6.92	7.11	7.10	7.06	6.92	7.09	5.92	5.92	5.89	6.51	7.05	6.11
Borehole depth to top of casing	m	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68	7.68
Top of casing relative to Ordnance Datum Level	m	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73
Water level relative to Ordnance Datum	m	55.68	55.66	55.65	56.27	56.12	55.81	55.62	55.63	55.67	55.81	55.64	56.81	56.81	56.84	56.22	55.68	56.62
Calculated purge volume	litres							4.56	4.64	4.96	6	5	14	14	14	9		
Base of Well to Ordnance Datum	m	55.05	55.05	55.05	55.05	55.05	55.05	55.05	55.05	55.05	55.05	55.05	55.05	55.05	55.05	55.05	55.05	55.05
Gas Concentrations																		
Date monitored	-	11/01/2008	07/02/2008	07/03/2008	22/04/2008	30/05/2008	16/06/2008	31/07/2008	21/08/2008	26/09/2008		26/11/08	16/12/08	30/01/09	25/02/09	30/03/09	24/06/09	30/09/09
Time of measurement	-	16:05	10:40	12:20				00:00	14:45	03:21		10:48	06:14	12:14	02:38	08:09	12:21	12:51
Methane	% vol	37.1	34.6	32.7	42.9	43.2	44.1	42.7	39.0	41.5		39.5	42.5	39.5	37.4	40.6	0.0	36.2
Carbon Dioxide	% vol	27.8	28.3	28.2	30.4	32.3	30.5	32.5	37.3	35.3		29.4	30.2	30.4	31.4	28.7	0.1	29.2
Oxygen	% vol	0.8	0.6	0.9	0.2	0.4	0.8	1.1	1.5	1.3		2.3	3.4	3.1	2.8	3.3	20.4	3.4
Atmospheric Pressure	mbar	987	979	987	1009	1010	997	999	993	1015		1010	997	1000	1002	1009	1023	1012
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1		0.01	1.33	0.06	0.04	0.00		
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		0.20	0.20	<0.1	<0.1	<0.1		
Insitu Liquid Determinations																		
pH	pH units																	
Electrical Conductivity	µS/cm																	
Dissolved Oxygen	mg/l																	
Temperature	ºC																	
Comment											Equipment Failure						Damaged	Damaged

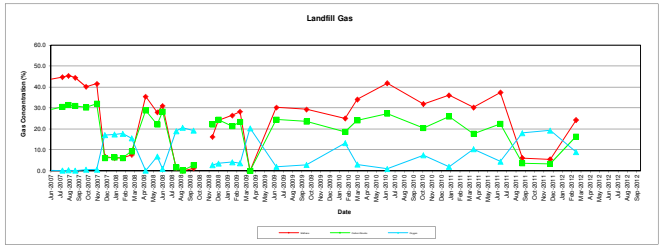
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N34**			(Sept mon)	(Dec Mon)						Well removed as part of Phase 4 works
Type Of Sample Required	None	04/02/10	22/06/10	18/10/10	10/01/11	31/03/11	24/06/11	07/09/11	07/12/11	01/03/12	
Determinand	Units										
Water Level											
Water level to top of casing	m	0.00	7.16	7.00	6.50	6.83	7.20	6.92	7.07	7.09	
Borehole depth to top of casing	m	7.68	7.99	8.00	8.00	8.00	8.00	8.06	8.00	8.22	
Top of casing relative to Ordnance Datum Level	m	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	62.73	
Water level relative to Ordnance Datum	m	62.73	55.57	55.73	56.23	55.90	55.53	55.81	55.66	55.64	
Calculated purge volume	litres										
Base of Well to Ordnance Datum	m	55.05	54.74	54.73	54.73	54.73	54.73	54.67	54.73	54.51	
Gas Concentrations											
Date monitored	-	04/02/10	22/06/10	18/10/10	10/01/11	31/03/11	24/06/11	07/09/11	07/12/12	01/03/12	
Time of measurement	-	11:45	13:12	15:25	14:30	13:05	15.10	11:50	11:16	15:03	
Methane	% vol	43.5	46	0.50	18.7	0.3	49.1	50.9	47.2	<0.1	
Carbon Dioxide	% vol	31.2	28.7	0.20	5.6	0.2	29.6	30.9	29.1	<0.1	
Oxygen	% vol	7.1	0.6	14.80	10.9	18.9	0.4	0.2	2.6	21.0	
Atmospheric Pressure	mbar	1006	1012	1001.00	997	983	1007	991	984	1017	
Gas Pressure	mbar	0.20	+/-0.01	-0.09	0.11	-0.01	0.00	-0.03	-0.30	-0.03	
Gas Flow Rate	l/hr	0.00	+/-0.1	+/-0.1	0.2	0.0		-0.1	n/r	0.1	
Insitu Liquid Determinations											
pH	pH units								6.8		
Electrical Conductivity	µS/cm								1080		
Dissolved Oxygen	mg/l								1.9		
Temperature	ºC		11						6.5		
Comment			Spot sample taken. Tap stuck closed, reading taken venting				Tap stuck in closed position. Gas levels measured in open borehole.	Tap blocked	Gas tap requires replacing		

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N35																		
Type Of Sample Required	None	22/06/04	05/08/04	26/08/04	27/09/04	05/11/04	17/11/04	16/12/04	26/01/05	10/03/05	20/04/05	16/05/05	27/06/05	23/07/05	16/08/05	15/09/05	28/10/05	15/11/05	07/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	Dry	Dry	5.95	Dry	5.96	5.96	5.95	5.99	Dry	4.28	4.50	4.50	3.21	Dry	5.80	6.00	5.58	5.97
Borehole depth to top of casing	m	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36
Top of casing relative to Ordnance Datum Level	m	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86
Water level relative to Ordnance Datum	m			55.91		55.90	55.90	55.91	55.87		57.58	57.36	57.36	58.65		56.06	55.86	56.28	55.89
Calculated purge volume	litres																		
Base of Well to Ordnance Datum	m	55.86	55.86	55.86	55.86	55.86	55.86	55.86	55.86	55.86	55.86	55.86	55.86	55.86	55.86	55.86	55.86	55.86	55.86
Gas Concentrations																			
Date monitored	-	22/06/04	05/08/04	26/08/04	27/09/2004	05/11/2004	17/11/2004	16/12/2004	26/01/2005	10/03/2005	20/04/2005	16/05/2005	27/06/2005	23/07/2005	16/08/2005	15/09/2005	28/10/2005	15/11/2005	07/12/2005
Time of measurement	-		12:58	0815hrs	11:50	09:35	10:55	10:40	15:00	11:30	9.40am	17.40	8.00	18:55	3.49	12:50	11:44	14:56	13:58
Methane	% vol	31.6	31	52.5	52.2	1.6	2.4	41.4	23.6	46.4	14.7	17.6	<0.1	<0.1	<0.1	31.8	2.8	32.4	35.7
Carbon Dioxide	% vol	22.1	22.8	31.5	31.6	2	2.3	27.9	18.8	29.2	39.1	15.2	<0.1	<0.1	1.1	23.2	2.1	27.7	27.9
Oxygen	% vol	2.3	2.6	0.9	1	15.4	16.4	1.8	7.2	0.8	21.7	13.9	15.9	12.5	10.6	6.2	18.4	<0.1	0.6
Atmospheric Pressure	mbar	1001	1015	1010	1008	1012	1012	973	1027	1011	1030	1021	1010	1019	1019	1013	989	1000	1004
Gas Pressure	mbar	0.3		8	8.1	8.1	8	1.2	0.8	<0.1	1.2	0.1	1.2	<0.1	<0.1			2.2	4.9
Gas Flow Rate	l/hr	1.1		2.6	2.7	2.7	2.7	<0.1	<0.1	1.2	2.1	0.1	1.1	<0.1	<0.1	0.5		0.2	<0.1
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment																			





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N35**																							
Type Of Sample Required	None	11/01/06	09/02/06	20/03/06	13/04/06	05/05/06	27/06/06	14/07/06	09/08/06	12/09/06	03/10/06	08/11/06	05/12/06	10/01/07	07/02/07	12/03/07	18/04/07	21/05/07	07/06/07	24/07/07	13/08/07	04/09/07	10/10/07	14/11/07	10/12/07
Determinand	Units																							
Water Level																								
Water level to top of casing	m	Dry	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	5.98	DRY	5.99	DRY	DRY	DRY	DRY
Borehole depth to top of casing	m	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36
Top of casing relative to Ordnance Datum Level	m	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86
Water level relative to Ordnance Datum	m																		55.88		55.87				
Calculated purge volume	litres																								
Base of Well to Ordnance Datum	m	55.86	55.86	55.86	55.86	55.86	55.86	55.86	55.86	55.86	55.86	55.86	55.86	55.86	55.86	55.86	55.86	55.86	55.86	55.86	55.86	55.86	55.86	55.86	55.50
Gas Concentrations																									
Date monitored	-	11/01/2006	09/02/2006	20/03/2006	13/04/2006	05/05/2006	27/06/2006	14/07/2006	09/08/2006	12/09/2006	03/10/2006	08/11/2006	05/12/2006	10/01/2007	07/02/2007	12/03/2007	18/04/2007	21/05/2007	07/06/2007	24/07/2007	13/08/2007	04/09/2007	10/10/2007	14/11/2007	10/12/2007
Time of measurement	-	10:37	16:10	13:01	10:49	15:03	10:32	14:58	11:50	12:51	12:13	12:34	15:43	16:15	14:02	16:17	13:37	11:51	10:40	16:16	11:40	12:35	14:40	15:10	15:00
Methane	% vol	38.7	45.20	37.80	39.2	32.3	33.9	40.7	37.2	36.8	35.4	36.5	40.1	40.6	40.8	39.6	38.2	41.8	43.5	44.7	45.4	44.5	40.2	41.6	6.9
Carbon Dioxide	% vol	28.3	29.60	27.40	26.9	20.6	22.6	26.1	23.2	24.0	26.9	30.4	32.1	31	30.2	30.5	31.3	29.1	29.0	30.5	31.5	31.0	30.3	32.0	6.2
Oxygen	% vol	1.2	0.80	0.00	0.0	5.2	4.8	2.4	3.1	2.8	2.8	1.0	0.8	0.6	0.8	0.7	0.6	0.3	0.3	0.2	0.3	0.2	0.6	0.7	17.1
Atmospheric Pressure	mbar	996	1011	1013	982	1008	1012	1021	999	998	992	1003	967	998	995	1003	1003	1008	1017	997	988	1015	1016	1009	1009
Gas Pressure	mbar	0	0.5	1	1.2	<0.1	<0.1	2.7	1.1	1.4	<0.1	2	0.9	<0.1	<0.1	<0.1	<0.1	0.7	1.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment																					Broken Switch Stuck open, venting	Broken Switch Stuck open, venting	Broken Switch Stuck open, venting	Broken Switch Stuck open, venting	Broken Switch Stuck open, venting

Ness Farm Landfill
Field Monitoring Sheet

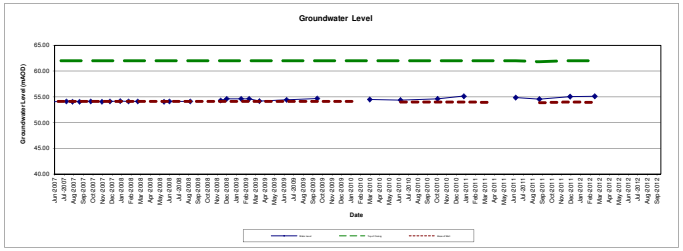
Sampling Location	**N35**																	
Type Of Sample Required	None	11/01/08	07/02/08	07/03/08	22/04/08	30/05/08	16/06/08	31/07/08	21/08/08	26/09/08	29/10/08	26/11/08	16/12/08	30/01/09	25/02/09	30/03/09	24/06/09	30/09/09
Determinand	Units																	
Water Level																		
Water level to top of casing	m	DRY	DRY	DRY	DRY	5.96	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
Borehole depth to top of casing	m	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36	6.36
Top of casing relative to Ordnance Datum Level	m	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.86
Water level relative to Ordnance Datum	m					55.90												
Calculated purge volume	litres																	
Base of Well to Ordnance Datum	m	55.50	55.50	55.50	55.50	55.50	55.50	55.50	55.50	55.50	55.50	55.50	55.50	55.50	55.50	55.50	55.50	55.50
Gas Concentrations																		
Date monitored	-	11/01/2008	07/02/2008	07/03/2008	22/04/2008	30/05/2008	16/06/2008	31/07/2008	21/08/2008	26/09/2008	29/10/2008	26/11/2008	16/12/2008	30/01/2009	25/02/2009	30/03/2009	24/06/2009	30/09/2009
Time of measurement	-	15:50	10:57	12:29				00:00	14:34	02:09		08:38	04:04	12:57	03:36	11:27	12:14	11:02
Methane	% vol	6.1	6.2	7.6	35.5	27.9	31.0	1.4	0.0	1.2		16.2	24.1	26.5	28.2	0.0	30.3	29.4
Carbon Dioxide	% vol	6.4	6.2	9.4	28.9	22.1	28.3	1.7	0.2	2.8		22.1	24.4	21.4	23.4	0.0	24.5	23.6
Oxygen	% vol	17.4	17.8	15.6	0.2	6.9	0.9	19.0	20.6	19.2		2.8	3.6	4.2	3.7	20.4	2.0	2.9
Atmospheric Pressure	mbar	987	979	987	1009	1010	997	999	993	1015		1011	997	1000	1002	1009	1023	1012
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1	Damaged	<0.1	0	<0.1	0		0.00	0.00	-0.03	0.01			
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	Damaged	<0.1	0	<0.1	0		0.00	0.00	<0.1	<0.1			
Insitu Liquid Determinations																		
pH	pH units																	
Electrical Conductivity	µS/cm																	
Dissolved Oxygen	mg/l																	
Temperature	ºC																	
Comment		Broken Switch Stuck open, venting	Broken Switch Stuck open, venting	Broken Switch Stuck open, venting							Equipment Failure					Damaged	Damaged	Damaged

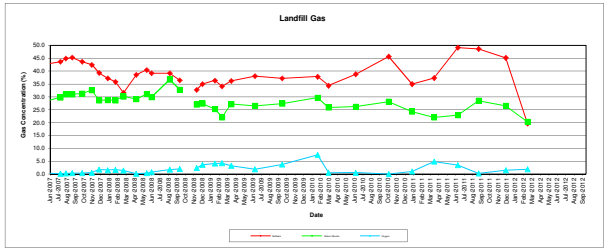
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N35				(Sept mon)	(Dec Mon)						Well removed as part of Phase 4 works
Type Of Sample Required	None	04/02/10	16/03/10	22/06/10	18/10/10	10/01/11	31/03/11	27/06/11	07/09/11	07/12/11	01/03/12	
Determinand	Units											
Water Level												
Water level to top of casing	m	DRY	5.91	Dry	5.95	5.90	Dry	Dry	5.95	5.93	5.92	
Borehole depth to top of casing	m	6.36	6.02	6.02	6.02	6.03	6.00	6.96	6.02	6.00	5.99	
Top of casing relative to Ordnance Datum Level	m	61.86	61.86	61.86	61.86	61.86	61.86	61.86	61.99	61.86	61.86	
Water level relative to Ordnance Datum	m		55.95		55.91	55.96			56.04	55.93	55.94	
Calculated purge volume	litres	51										
Base of Well to Ordnance Datum	m	55.50	55.50	55.84	55.84	55.83	55.86	54.90	55.97	55.86	55.87	
Gas Concentrations												
Date monitored	-	04/02/2010	16/03/2010	22/06/2010	18/10/2010	10/01/2011	31/03/11	27/06/2011	07/09/11	07/12/12	01/03/12	
Time of measurement	-	10:33	15:00	13:24	13:30	14:20	13:00	10:37	12:06	11:36	15:17	
Methane	% vol	25.0	34.1	41.8	31.9	36.1	30.3	37.4	6.1	5.5	24.3	
Carbon Dioxide	% vol	18.6	24.1	27.3	20.5	26.0	17.7	22.4	3.7	3.4	16.4	
Oxygen	% vol	13.3	3.1	1	7.5	2.0	10.4	4.5	18.1	19.3	9.0	
Atmospheric Pressure	mbar	1006	1012	1012	1001	997	983	1008	990.0	985	1018	
Gas Pressure	mbar	0.01	0.14	0.16	-0.01	0.09	0.04	0.00	<0.01	<0.1	<0.01	
Gas Flow Rate	l/hr	0.00	+/-0.1	0.2	+/-0.1	+/-0.1	0.0	<0.1	<0.1	<0.1	-0.1	
Insitu Liquid Determinations												
pH	pH units											
Electrical Conductivity	µS/cm											
Dissolved Oxygen	mg/l											
Temperature	ºC											
Comment				Tap stuck open. Reading taken venting.		Insufficient to sample			Tap requires replacing	Gas tap requires replacing. Dry.	Monitoring point was knocked over after gas/levels done	

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N35a																		
Type Of Sample Required	None	22/06/04	05/08/04	26/08/04	27/09/04	05/11/04	17/11/04	16/12/04	26/01/05	10/03/05	20/04/05	16/05/05	27/06/05	23/07/05	16/08/05	15/09/05	28/10/05	15/11/05	07/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	7.85	7.84	7.90	7.90	7.92	7.90	7.76	7.91	Dry	7.21	7.29	5.26	Dry	7.36	7.80	7.80	7.81	7.75
Borehole depth to top of casing	m	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88
Top of casing relative to Ordnance Datum Level	m	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99
Water level relative to Ordnance Datum	m	54.14	54.15	54.09	54.09	54.07	54.09	54.23	54.08		54.78	54.70	56.73		54.63	54.19	54.19	54.18	54.24
Calculated purge volume	litres																		
Base of Well to Ordnance Datum	m	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11
Gas Concentrations																			
Date monitored	-	22/06/04	05/08/04	26/08/04	27/09/2004	05/11/2004	17/11/2004	16/12/2004	26/01/2005	10/03/2005	20/04/2005	16/05/2005	27/06/2005	23/07/2005	16/08/2005	15/09/2005	28/10/2005	15/11/2005	07/12/2005
Time of measurement	-		12:40	0810hrs	12:00	09:35	11:10	10:30	15:15	11:40	10.30am	18.51	9.45	19:09	4.21	12:55	11:42	15:04	14:04
Methane	% vol	33.6	35.5	35.8	35	33.4	21:36	46.4	33.4	47.8	45.1	16.9	13.6	11.1	<0.1	39.9	40.8	41.1	24.8
Carbon Dioxide	% vol	19.2	19.4	23.2	23.4	20.1	19.8	30.9	20.4	29.7	42.3	12.2	9.9	6.4	<0.1	29.9	30.3	29.3	23.1
Oxygen	% vol	3.9	4.1	5.6	5.7	4.3	4.4	0.7	4	<0.1	19.6	18.6	21.1	13.6	8.5	<0.1	0.3	<0.1	0.4
Atmospheric Pressure	mbar	1001	1015	1010	1008	1008	1011	973	1027	1011	1029	1029	1010	1019	1019	1013	989	1000	1004
Gas Pressure	mbar	0.4		8.2	7.9	7.8	7.6	<0.1	6.2	<0.1	1.6	<0.1	0.1	1.1	1.3			0.2	3.1
Gas Flow Rate	l/hr	1.3		2.7	2.7	2.6	2.6	1.4	<0.1	1	1.1	0.1	0.1	1.1	2.1	0.2		<0.1	0.5
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment																			





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N35a**																							
Type Of Sample Required	None	11/01/06	09/02/06	20/03/06	13/04/06	05/05/06	27/06/06	14/07/06	09/08/06	12/09/06	03/10/06	07/11/06	05/12/06	10/01/07	07/02/07	12/03/07	18/04/07	21/05/07	07/06/07	24/07/07	13/08/07	04/09/07	10/10/07	14/11/07
Determinand	Units																							
Water Level																								
Water level to top of casing	m	Dry	5.82	7.89	7.91	DRY	DRY	7.88	7.91	DRY	7.92	7.88	DRY	7.88	7.88	7.85	7.87	7.87	7.91	7.88	7.89	7.89	7.88	7.90
Borehole depth to top of casing	m	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88
Top of casing relative to Ordnance Datum Level	m	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99
Water level relative to Ordnance Datum	m		56.17	54.10	54.08			54.11	54.08		54.07	54.11		54.11	54.11	54.14	54.12	54.12	54.08	54.11	54.10	54.10	54.11	54.09
Calculated purge volume	litres																							
Base of Well to Ordnance Datum	m	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11
Gas Concentrations																								
Date monitored	-	11/01/2006	09/02/2006	20/03/2006	13/04/2006	05/05/2006	27/06/2006	14/07/2006	09/08/2006	12/09/2006	03/10/2006	07/11/2006	05/12/2006	10/01/2007	07/02/2007	12/03/2007	18/04/2007	21/05/2007	07/06/2007	24/07/2007	13/08/2007	04/09/2007	10/10/2007	14/11/2007
Time of measurement	-	10:31	16:05	13:06	10:54	14:57	10:38	14:50	11:42	12:58	12:05	12:26	15:38	16:08	14:10	16:25	13:45	11:42	10:30	16:08	11:30	12:47	14:50	15:20
Methane	% vol	49.8	47.80	41.70	39.8	45.5	42.7	43.7	41.1	39.5	37.2	40.1	42	42.8	41.5	40.3	38.1	41.5	42.8	43.7	44.9	45.3	43.7	42.5
Carbon Dioxide	% vol	29.6	29.70	27.40	30.2	27.2	23.5	28.0	28.2	26.6	28.4	30.5	31.9	30.7	31.1	31.2	29.6	28.7	28.5	29.8	31.0	31.0	31.3	32.6
Oxygen	% vol	0.9	0.70	0.00	0.0	0.0	0.0	0.6	0.3	0.8	1.8	0.6	0.5	0.9	0.9	0.8	1.1	0.4	0.4	0.2	0.3	0.4	0.4	0.6
Atmospheric Pressure	mbar	997	1011	1013	982	1008	1012	1021	999	998	992	1004	967	998	995	1003	1003	1008	1017	997	988	1015	1016	1009
Gas Pressure	mbar	1.5	0.3	1.5	1.7	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	3.7	1.8
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	0.4	0.2	<0.1	<0.1	<0.1	0.2	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Insitu Liquid Determinations																								
pH	pH units																							
Electrical Conductivity	µS/cm																							
Dissolved Oxygen	mg/l																							
Temperature	℃																							
Comment									Broken nozzle on tap															

Ness Farm Landfill
Field Monitoring Sheet

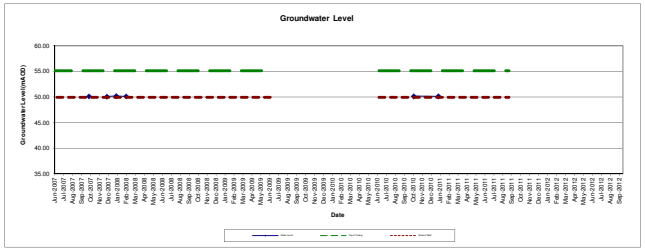
Sampling Location	**N35a**																	
Type Of Sample Required	None	10/12/07	11/01/08	07/02/08	07/03/08	22/04/08	30/05/08	16/06/08	21/08/08	26/09/08	29/10/08	26/11/08	16/12/08	30/01/09	25/02/09	30/03/09	24/06/09	30/09/09
Determinand	Units																	
Water Level																		
Water level to top of casing	m	7.85	7.82	7.85	7.87	DRY	7.89	7.88	7.86	DRY	DRY	7.67	7.36	7.36	7.36	7.80	7.55	7.31
Borehole depth to top of casing	m	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88
Top of casing relative to Ordnance Datum Level	m	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.99
Water level relative to Ordnance Datum	m	54.14	54.17	54.14	54.12		54.10	54.11	54.13			54.32	54.63	54.63	54.63	54.19	54.44	54.68
Calculated purge volume	litres								0.16			2	4	4	4	1		5
Base of Well to Ordnance Datum	m	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11	54.11
Gas Concentrations																		
Date monitored	-	10/12/2007	11/01/2008	07/02/2008	07/03/2008	22/04/2008	30/05/2008	16/06/2008	21/08/2008	26/09/2008		26/11/2008	16/12/2008	30/01/2009	25/02/09	30/03/09	24/06/09	30/09/09
Time of measurement	-	14:52	16:57	10;48	12:37				14:39	02:38		09:50	05:02	00:14	15:22	11:30	12:08	12:39
Methane	% vol	39.3	37.2	35.9	31.6	38.6	40.5	39.2	39.2	36.5		32.7	35.0	36.4	34.1	36.2	38.1	37.2
Carbon Dioxide	% vol	28.7	28.8	28.7	30.2	29.1	31.1	29.9	36.7	32.8		27.0	27.4	25.3	22.1	27.2	26.5	27.4
Oxygen	% vol	1.8	1.6	1.7	1.4	0.2	0.4	0.8	1.8	2.0		2.4	3.6	4.1	4.3	3.3	1.9	3.8
Atmospheric Pressure	mbar	1009	987	979	987	1009	1010	997	993	1015		1011	997	1000	1002	1009	1023	1012
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1		0.04	0.09	0.04	0.04	0.02	0.05	0.02
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1		0.10	0.10	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																		
pH	pH units																	
Electrical Conductivity	µS/cm																	
Dissolved Oxygen	mg/l																	
Temperature	ºC																	
Comment											Equipment Failure							

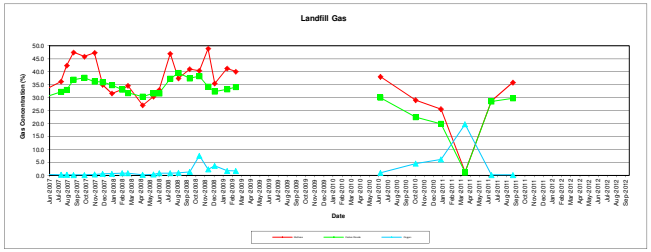
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N35a**				(Sept mon)	(Dec Mon)						Well Removed as part of Phase 4 works
Type Of Sample Required	None	04/02/10	16/03/10	22/06/10	18/10/10	10/01/11	31/03/11	24/06/11	07/09/11	14/12/11	01/03/12	
Determinand	Units											
Water Level												
Water level to top of casing	m	DRY	7.48	7.62	7.35	6.83	Dry	7.10	7.31	6.94	6.87	
Borehole depth to top of casing	m	7.88	7.99	7.98	8.00	8.00	8.04		7.98	7.99	8.03	
Top of casing relative to Ordnance Datum Level	m	61.99	61.99	61.99	61.99	61.99	61.99	61.99	61.86	61.99	61.99	
Water level relative to Ordnance Datum	m		54.51	54.37	54.64	55.16		54.89	54.55	55.05	55.12	
Calculated purge volume	litres											
Base of Well to Ordnance Datum	m	54.11		54.01	53.99	53.99	53.95		53.88	54.00	53.96	
Gas Concentrations												
Date monitored	-	04/02/10	16/03/10	22/06/10	18/10/10	10/01/11	31/03/11	24/06/11	07/09/11	14/12/12	01/03/12	
Time of measurement	-	09:21	15:10	13:19	15:10	14:30	12:55	15:22	11:57	11:53	15:10	
Methane	% vol	37.9	34.4	38.8	45.7	35.0	37.3	49.1	48.6	45.2	19.7	
Carbon Dioxide	% vol	29.7	25.9	26.2	28.1	24.3	22.0	22.9	28.5	26.5	20.3	
Oxygen	% vol	7.5	0.5	0.6	<0.1	1.0	4.9	3.5	0.3	1.5	1.9	
Atmospheric Pressure	mbar	1006	1012	1012	1001	997	983	1007	990	971	1017	
Gas Pressure	mbar	0.03	0.07	+/-0.01	0.1	0.1	-0.05	0.00	-0.02	-0.16	0.09	
Gas Flow Rate	l/hr	0.00	+/-0.1	+/-0.1	0.2	+/-0.1	0.0		<0.1	<0.1	<0.1	
Insitu Liquid Determinations												
pH	pH units									6.8		
Electrical Conductivity	µS/cm									1860		
Dissolved Oxygen	mg/l									4.5		
Temperature	ºC									7.5		
Comment				BH effectively dry, unable to sample				Tip of tap broken off	Tap requires replacing	Gas tap requires replacing	Monitoring point was knocked over after gas/levels done	

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N36																		
Type Of Sample Required	Leachate	23/06/04	04/08/04	25/08/04	28/09/04	05/11/04	17/11/04	16/12/04	26/01/05	11/03/05	20/04/05	17/05/05	25/06/05	24/07/05	16/08/05	15/09/05	28/10/05	16/11/05	08/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	4.92	5.93	5.93	Dry	Dry	Dry	Dry	Dry	Dry	2.71	3.24	2.29	4.31	Dry	4.98	4.80	4.58	4.92
Borehole depth to top of casing	m	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20
Top of casing relative to Ordnance Datum Level	m	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11
Water level relative to Ordnance Datum	m	50.19	49.18	49.18							52.40	51.87	52.82	50.80		50.13	50.31	50.53	50.19
Calculated purge volume	litres	6.72																	
Base of Well to Ordnance Datum	m	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91
Gas Concentrations																			
Date monitored	-	23/06/04	04/08/04	25/08/04	28/09/2004	05/11/2004	17/11/2004	16/12/2004	26/01/2005	11/03/2005	20/04/2005	17/05/2005	25/06/2005	24/07/2005	16/08/2005	15/09/2005	28/10/2005	16/11/2005	08/12/2005
Time of measurement	-		11:17	0750hrs	10:00	09:47	11:20	10:10	15:30	12:00	11.30am	7.49	8.30	08:21	5.36	12:43	15:43	11:00	12:43
Methane	% vol	30.4	0.6	45.1	0.9	4.2	4.2	43.8	5	4.9	36.4	21.1	9.6	5.1	16.2	39.8	39.3	41.9	32.6
Carbon Dioxide	% vol	25.0	0.5	33.8	0.6	3.9	3.8	37.6	3.7	3.8	28.2	17.4	6.4	3.1	11.1	32.7	32	33.6	22.4
Oxygen	% vol	4.6	20.1	0.2	20.3	16.6	16.4	<0.1	17	16.8	11.4	12.1	12.9	15.1	6	2.1	<0.1	<0.1	0.4
Atmospheric Pressure	mbar	993	1016	1001	1012	1013	1011	974	1030	1012	1021	1028	1010	1020	1019	1013	990	1004	1014
Gas Pressure	mbar	0.0		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.4	0.1	<0.1	<0.1	4.1	Not recorded		2.3	2.4
Gas Flow Rate	l/hr	0.8		2.7	2.6	2.5	2.5	1.9	<0.1	<0.1	1.1	<0.1	<0.1	<0.1	4.3	0.7		<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units										6.45	6.99	7.02				6.79		
Electrical Conductivity	µS/cm											5220	3120				3680		
Dissolved Oxygen	mg/l										12.4	9.2	31.2				0		
Temperature	℃										10	13.6	10				22.4		
Comment		Insufficient sample	No Water tube to sample	Insufficient sample													Black	Insufficient	Insufficient





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N36**																							
Type Of Sample Required	Leachate	10/01/06	10/02/06	21/03/06	12/04/06	04/05/06	26/06/06	24/07/06	09/08/06	12/09/06	03/10/06	08/11/06	05/12/06	11/01/07	07/02/07	12/03/07	19/04/07	16/05/07	07/06/07	25/07/07	13/08/07	05/09/07	11/10/07	14/11/07
Determinand	Units																							
Water Level																								
Water level to top of casing	m	Dry	DRY	DRY	DRY	DRY	4.55	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	4.98	DRY
Borehole depth to top of casing	m	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20
Top of casing relative to Ordnance Datum Level	m	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11
Water level relative to Ordnance Datum	m						50.56																50.13	
Calculated purge volume	litres																							
Base of Well to Ordnance Datum	m	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91
Gas Concentrations																								
Date monitored	-	10/01/2006	10/02/2006	21/03/2006	12/04/2006	04/05/2006	26/06/2006	24/07/2006	09/08/2006	12/09/2006	03/10/2006	08/11/2006	05/12/2006	11/01/2007	07/02/2007	12/03/2007	19/04/2007	16/05/2007	07/06/2007	25/07/2007	13/08/2007	05/09/2007	11/10/2007	14/11/2007
Time of measurement	-	14:24	14:33	16:04	14:19	11:58	15:40	13:00	13:15	11:30	13:53	14:41	14:30	11:10	11:35	15:00	15:15	15:25	14:30	14:50	13:27	14:32	11:11	13:40
Methane	% vol	41.1	37.00	29.20	30.6	39.1	35.3	39.4	36.2	39.1	38.4	44.2	42.4	33	33.5	34.1	32.7	33.7	33.3	36.2	42.4	47.5	45.9	47.3
Carbon Dioxide	% vol	32.3	32.20	29.10	28.5	29.4	29.8	30.9	25.6	32.6	31.6	35.1	34.6	32.5	33.1	33.0	32.0	31.5	30.4	32.2	33.0	36.9	37.7	36.2
Oxygen	% vol	0.5	0.50	0.00	0.0	0.0	0.4	0.5	0.4	0.5	1.7	0.8	0.6	0.5	0.7	1.0	0.4	0.3	0.4	0.3	0.3	0.2	0.2	0.4
Atmospheric Pressure	mbar	989	1015	1010	995	1009	1009	1006	997	1000	992	1003	968	970	996	1003	1011	1000	1015	994	989	1016	1009	1008
Gas Pressure	mbar	0.3	0.4	0.5	0.7	0.8	0.2	1.8	0.9	1.2	<0.1	2.3	0.8	1.5	0.7	0.9	1.2	0.8	0.1	<0.1	0.2	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr	0.8	<0.1	0.3	<0.1	0.1	<0.1	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																								
pH	pH units																							
Electrical Conductivity	µS/cm																							
Dissolved Oxygen	mg/l																							
Temperature	℃																							
Comment		Insufficient					Insufficient liquid to obtain sample																	

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N36**																		
Type Of Sample Required	Leachate	11/12/07	11/01/08	14/02/08	04/03/08	22/04/08	28/05/08	16/06/08	23/07/08	19/08/08	26/09/08	28/10/08	26/11/08	18/12/08	28/01/09	26/02/09	30/03/09	23/06/09	30/10/09
Determinand	Units																		
Water Level																			
Water level to top of casing	m	5.00	4.89	4.97	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	
Borehole depth to top of casing	m	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	
Top of casing relative to Ordnance Datum Level	m	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	55.11	
Water level relative to Ordnance Datum	m	50.11	50.22	50.14															
Calculated purge volume	litres																		
Base of Well to Ordnance Datum	m	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	
Gas Concentrations																			
Date monitored	-	11/12/2007	11/01/2008	14/02/2008	04/03/2008	22/04/2008	28/05/2008	16/06/2008	23/07/2008	19/08/2008	26/09/2008	28/10/2008	26/11/2008	18/12/2008	28/01/2009	26/02/2009			
Time of measurement	-	11:20	14:22	12:40	13:50	00:00	00:00	00:00	00:00	16:35	07:55	01:40	11:31	10:04	07:26	07:26			
Methane	% vol	35.0	31.6	33.2	34.6	27.1	30.4	33.0	47.0	37.4	41.0	40.4	48.9	35.5	41.3	40.1			
Carbon Dioxide	% vol	36.0	34.8	33.1	31.8	30.4	31.7	31.7	37.3	39.5	37.5	38.3	34.2	32.4	33.2	34.1			
Oxygen	% vol	0.6	0.7	0.9	0.9	0.3	0.4	0.9	0.9	1.0	1.4	7.6	2.4	3.7	1.8	1.7			
Atmospheric Pressure	mbar	1024	987	1005	1020	1009	1003	997	1007	981	1015	999	1010	1000	1013	1013			
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.64	-0.02	0.04			
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.20	<0.1	0.10	<0.1	<0.1			
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment																	Seized	Seized	Seized

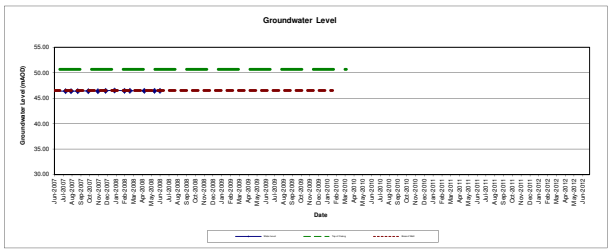
Ness Farm Landfill
Field Monitoring Sheet

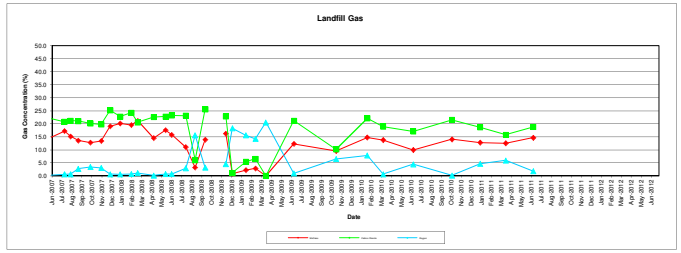
Sampling Location	**N36**			(Sept mon)	(Dec Mon)				
Type Of Sample Required	Leachate	02/02/10	22/06/10	18/10/10	10/01/11	31/03/11	27/06/11	07/09/11	
Determinand	Units								
Water Level									
Water level to top of casing	m		Dry	4.95	4.98	Dry	Dry	4.93	
Borehole depth to top of casing	m		4.99	4.99	5.00	5.00	4.93	4.93	
Top of casing relative to Ordnance Datum Level	m		55.11	55.11	55.11	55.11	55.11	55.11	
Water level relative to Ordnance Datum	m			50.16	50.13				
Calculated purge volume	litres								
Base of Well to Ordnance Datum	m		49.91	49.91	49.91	49.91	49.91	49.91	
Gas Concentrations									
Date monitored	-		22/06/2010	18/10/2010	10/01/2011	31/03/11	27/06/2011	12/09/11	
Time of measurement	-		09:50	13:50	14:45	12:40	16:00	12:33	
Methane	% vol		38.1	29.0	25.6	1.3	28.7	35.9	
Carbon Dioxide	% vol		30	22.50	19.9	1.2	28.5	29.8	
Oxygen	% vol		1	4.60	6.2	19.8	0.2	0.2	
Atmospheric Pressure	mbar		1014	1001.00	997	983	1008	974	
Gas Pressure	mbar		0.03	-0.05	-0.07	-0.01	-0.06	<0.01	
Gas Flow Rate	l/hr		+/-0.1	+/-0.1	+/-0.1	0.0	-0.1	0.4	
Insitu Liquid Determinations									
pH	pH units								
Electrical Conductivity	µS/cm								
Dissolved Oxygen	mg/l								
Temperature	℃								
Comment		Seized			Insufficient to sample	Insufficient to sample	Tap found open	Borehole dry	

Well removed as part of Phase 4 Works

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N37																		
Type Of Sample Required	None	23/06/04	05/08/04	25/08/04	27/09/04	05/11/04	17/11/04	16/12/04	26/01/05	11/03/05	20/04/05	17/05/05	25/06/05	24/07/05	16/08/05	16/09/05	28/10/05	16/11/05	15/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	3.77	3.75	3.76	3.77	3.77	3.77	3.76	3.77		1.21	2.21	2.20	3.21		Dry	3.70	3.68	3.55
Borehole depth to top of casing	m	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11		4.11	4.11	4.11	4.11		4.11	4.11	4.11	4.11
Top of casing relative to Ordnance Datum Level	m	50.64	50.64	50.64	50.64	50.64	50.64	50.64	50.64		50.64	50.64	50.64	50.64		50.64	50.64	50.64	50.64
Water level relative to Ordnance Datum	m	46.87	46.89	46.88	46.87	46.87	46.87	46.88	46.87		49.43	48.43	48.44	47.43			46.94	46.96	47.09
Calculated purge volume	litres																		
Base of Well to Ordnance Datum	m	46.53	46.53	46.53	46.53	46.53	46.53	46.53	46.53		46.53	46.53	46.53	46.53		46.53	46.53	46.53	46.53
Gas Concentrations																			
Date monitored	-	23/06/04	05/08/04	25/08/04	27/09/2004	05/11/2004	17/11/2004	16/12/2004	26/01/2005	11/03/2005	20/04/2005	17/05/2005	25/06/2005	24/07/2005	16/08/2005	16/09/2005	28/10/2005	16/11/2005	15/12/2005
Time of measurement	-		14:00	0755hrs	12:15	09:40	11:30	13:30	15:40		12.40pm	9.20	10.00	09:30		11:16	15:43	11:11	16:02
Methane	% vol	3.4	3.5	3.7	3.8	3.6	3.6	3.2	3.4		46.1	34.2	11.1	7.2		18.4	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	4.6	4.4	4.4	4.4	4.7	4.8	4.6	4.4		41.2	29.6	9.2	5.1		12.1	<0.1	<0.1	<0.1
Oxygen	% vol	16.2	17	16.1	16.3	17.8	17.8	19.2	17.9		21.6	20.1	14.6	13.6		6.4	20.9	20.7	20.5
Atmospheric Pressure	mbar	994	1015	1001	1008	1008	1011	973	1030		1028	1028	1010	1020		1006	990	1004	1008
Gas Pressure	mbar	0.0		<0.1	<0.1	1	1	<0.1	1		2.6	1.6	1.1	1.1		0			
Gas Flow Rate	l/hr	<0.1		2.6	2.6	2.6	2.4	0.1	2.1		1.9	1.1	0.1	0.1		<0.1			
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment		No metal casing of gas tap		No metal casing of gas tap	No metal casing. Off gas tap					Cannot Locate								No valve	No valve





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N37**																							
Type Of Sample Required	None	10/01/06	10/02/06	22/03/06	12/04/06	04/05/06	26/06/06	24/07/06	09/08/06	12/09/06	03/10/06	09/11/06	05/12/06	11/01/07	07/02/07	12/03/07	19/04/07	16/05/07	07/06/07	25/07/07	13/08/07	05/09/07	12/10/07	14/11/07
Determinand	Units																							
Water Level																								
Water level to top of casing	m	3.67	3.71	DRY	DRY	DRY	DRY	3.71	3.70	DRY	DRY	3.70	-	4.20	DRY	DRY	4.22	4.24	4.23	4.25	4.25	4.23	4.21	4.22
Borehole depth to top of casing	m	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11
Top of casing relative to Ordnance Datum Level	m	50.64	50.64	50.64	50.64	50.64	50.64	50.64	50.64	50.64	50.64	50.64	50.64	50.64	50.64	50.64	50.64	50.64	50.64	50.64	50.64	50.64	50.64	50.64
Water level relative to Ordnance Datum	m	46.97	46.93					46.93	46.94			46.94		46.44			46.42	46.40	46.41	46.39	46.39	46.41	46.43	46.42
Calculated purge volume	litres																							
Base of Well to Ordnance Datum	m	46.53	46.53	46.53	46.53	46.53	46.53	46.53	46.53	46.53	46.53	46.53	46.53	46.53	46.53	46.53	46.53	46.53	46.53	46.53	46.53	46.53	46.53	46.53
Gas Concentrations																								
Date monitored	-	10/01/2006	10/02/2006	22/03/2006	12/04/2006	04/05/2006	26/06/2006	24/07/2006	09/08/2006	12/09/2006	03/10/2006	09/11/2006	05/12/2006	11/01/2007	07/02/2007	12/03/2007	19/04/2007	16/05/2007	07/06/2007	25/07/2007	13/08/2007	05/09/2007	12/10/2007	14/11/2007
Time of measurement	-	14:32	14:24	10:56	14:25	11:52	15:35	13:10	13:05	11:20	15:30	14:20	14:38	10:55	11:15	14:50	15:20	15:30	14:45	15:00	13:36	14:50	11:25	13:50
Methane	% vol	20.5	20.10	25.70	23.2	14.8	15.2	1.0	9.6	8.5	9.1	10.5	19.7	17.6	16.8	16.6	11.9	12.2	14.4	17.2	15.2	13.6	12.8	13.4
Carbon Dioxide	% vol	23.4	23.40	21.50	18.1	19.8	19.0	1.3	5.2	6.3	5.1	4.3	25.6	25.5	23.4	22.8	21.8	20.8	22.3	20.8	21.2	21.1	20.2	19.8
Oxygen	% vol	0.4	0.50	0.00	0.0	0.0	0.0	18.7	12.7	11.0	12.4	13.1	0.4	0.4	1.5	1.9	0.5	0.5	0.3	0.6	0.7	2.8	3.5	3.1
Atmospheric Pressure	mbar	990	1016	1009	996	1010	1010	1006	997	1000	992	1022	969	970	997	1003	1012	1001	1016	994	989	1016	1006	1009
Gas Pressure	mbar		No Tap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	9.2	10.1	5.9	4.6	2.4	1.8	0.7	1	<0.1	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr		No Tap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	0.1	<0.1	1	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																								
pH	pH units																							
Electrical Conductivity	µS/cm																							
Dissolved Oxygen	mg/l																							
Temperature	℃																							
Comment		No valve											Cannot remove new plug/cap											

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N37**																		
Type Of Sample Required	None	11/12/07	11/01/08	14/02/08	04/03/08	22/04/08	28/05/08	16/06/08	29/07/08	26/08/08	26/09/08	30/10/08	28/11/08	18/12/08	28/01/09	26/02/09	30/03/09	23/06/09	30/10/09
Determinand	Units																		
Water Level																			
Water level to top of casing	m	4.20	4.09	4.18	4.20	4.18	4.19	4.20	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
Borehole depth to top of casing	m	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11
Top of casing relative to Ordnance Datum Level	m	50.64	50.64	50.64	50.64	50.64	50.64	50.64	50.64	50.64	50.64	50.64	50.64	50.64	50.64	50.64	50.64	50.64	50.64
Water level relative to Ordnance Datum	m	46.44	46.55	46.46	46.44	46.46	46.45	46.44											
Calculated purge volume	litres																		
Base of Well to Ordnance Datum	m	46.53	46.53	46.53	46.53	46.53	46.53	46.53	46.53	46.53	46.53	46.53	46.53	46.53	46.53	46.53	46.53	46.53	46.53
Gas Concentrations																			
Date monitored	-	11/12/2007	11/01/2008	14/02/2008	04/03/2008	22/04/2008	28/05/2008	16/06/2008	29/07/2008	26/08/2008	26/09/2008	30/10/2008	28/11/2008	18/12/2008	28/01/2009	26/02/2009	30/03/2009	23/06/2009	30/10/2009
Time of measurement	-	11:15	14:30	12:50	14:00				00:00	15:21	09:21		09:21	11:45	07:55	07:55	13:19	13:23	13:16
Methane	% vol	19.1	20.2	19.6	21.2	14.5	17.6	15.8	11.1	3.2	13.9		16.2	0.9	2.2	2.9	0.0	12.3	9.6
Carbon Dioxide	% vol	25.2	22.8	24.3	20.6	22.6	22.8	23.2	23.1	6.1	25.6		22.9	1.2	5.4	6.6	0.0	21.2	10.2
Oxygen	% vol	0.7	0.6	0.8	1.1	0.2	0.8	0.8	3.0	15.6	3.2		4.6	18.3	15.6	14.3	20.6	1.0	6.5
Atmospheric Pressure	mbar	1022	988	1005	1021	1011	1003	997	998	996	1016		995	999	1013	1013	1008	1023	1017
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		0.01	<0.02	0.08	0.04	0.01	0.07	0.06
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment												Equipment Failure							

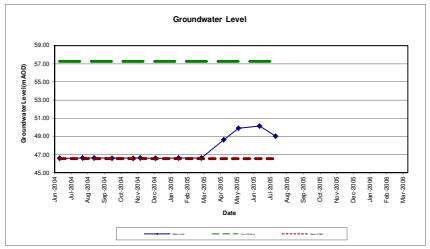
Ness Farm Landfill
Field Monitoring Sheet

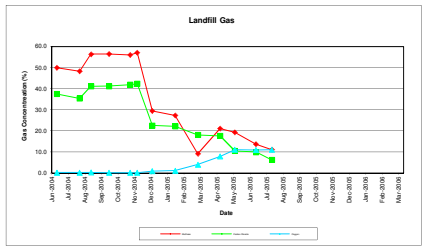
Sampling Location	**N37**				(Sept mon)	(Dec Mon)			**Removed as part of Phase 3 works**
Type Of Sample Required	None	02/02/10	22/03/10	22/06/10	18/10/10	12/01/11	31/03/11	23/06/11	
Determinand	Units								
Water Level									
Water level to top of casing	m	Dry	Dry						
Borehole depth to top of casing	m	4.11							
Top of casing relative to Ordnance Datum Level	m	50.64	50.64						
Water level relative to Ordnance Datum	m								
Calculated purge volume	litres	32.88							
Base of Well to Ordnance Datum	m	46.53							
Gas Concentrations									
Date monitored	-	02/02/2010	22/03/2010	22/06/2010	18/10/2010	12/01/2011	31/03/11	23/06/2011	
Time of measurement	-	10:48	14:15	09:29	14:00	11:45	12:45	14:02	
Methane	% vol	14.8	13.8	10	14.1	12.8	12.6	14.7	
Carbon Dioxide	% vol	22.1	18.9	17.1	21.5	18.7	15.8	18.8	
Oxygen	% vol	7.9	0.7	4.5	0.2	4.7	6.0	1.9	
Atmospheric Pressure	mbar	1005	997	1014	1001	996	983	1010	
Gas Pressure	mbar	0.08	+/-0.01	0.03	0.04	0.04	0.02	0.00	
Gas Flow Rate	l/hr	0.00	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	
Insitu Liquid Determinations									
pH	pH units								
Electrical Conductivity	µS/cm								
Dissolved Oxygen	mg/l								
Temperature	℃								
Comment				Unable to remove bung & tap. Bung stuck in BH pipe	Bung stuck, unable to dip	Could not remove bung to dip	Could not remove bung to dip	Could not remove bung to dip	

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N38																		
Type Of Sample Required	None	23/06/04	04/08/04	25/08/04	27/09/04	05/11/04	18/11/04	16/12/04	27/01/05	10/03/05	20/04/05	17/05/05	25/06/05	24/07/05	16/08/05	16/09/05	28/10/05	16/11/05	
Determinand	Units																		
Water Level																			
Water level to top of casing	m	10.64	10.60	10.62	10.63	10.63	10.62	10.64	10.62	10.60	8.61	7.34	7.10	8.20					
Borehole depth to top of casing	m	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68					
Top of casing relative to Ordnance Datum Level	m	57.25	57.25	57.25	57.25	57.25	57.25	57.25	57.25	57.25	57.25	57.25	57.25	57.25					
Water level relative to Ordnance Datum	m	46.61	46.65	46.63	46.62	46.62	46.63	46.61	46.63	46.65	48.64	49.91	50.15	49.05					
Calculated purge volume	litres																		
Base of Well to Ordnance Datum	m	46.57	46.57	46.57	46.57	46.57	46.57	46.57	46.57	46.57	46.57	46.57	46.57	46.57					
Gas Concentrations																			
Date monitored	-	23/06/04	04/08/04	25/08/04	27/09/04	05/11/04	18/11/04	16/12/04	27/01/05	10/03/05	20/04/05	17/05/05	25/06/05	24/07/05	16/08/05	16/09/05	28/10/05	16/11/05	
Time of measurement	-		11:30	0800hrs	10:20	11:20	11:50	10:15	09:00	10:20	1.50pm	10.10	11.30	10:20					
Methane	% vol	49.9	48.3	56.4	56.5	56	57.1	29.4	27.3	9.1	21.1	19.2	13.6	11.1					
Carbon Dioxide	% vol	37.5	35.3	41.1	41.2	41.9	42.3	22.5	22.1	18	17.6	10.4	9.9	6.2					
Oxygen	% vol	0.2	0.2	0.3	0.1	0.1	0.1	0.9	1.1	4	7.9	11.1	10.9	11.1					
Atmospheric Pressure	mbar	993	1010	1001	1012	1010	1003	973	1027	1013	1028	1021	1010	1020					
Gas Pressure	mbar	0.0		<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1					
Gas Flow Rate	l/hr	0.7		2.8	2.4	2.2	2.1	1.4	1	1.4	0.1	0.1	<0.1	<0.1					
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	ºC																		
Comment															Cannot Locate	Cannot Locate	Cannot Locate	Cannot Locate	

Borehole Lost, Not Replaced



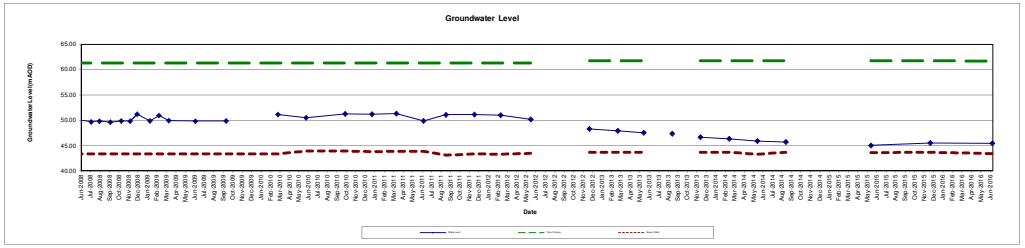


Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N39a**																		
Type Of Sample Required	Leachate	23/06/04	04/08/04	25/08/04	27/09/04	05/11/04	18/11/04	15/12/04	27/01/05	10/03/05	20/04/05	17/05/05	25/06/05	24/07/05	16/08/05	15/09/05	28/10/05	16/11/05	14/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	12.30	13.73	13.67	13.68	12.00	11.80	11.20	11.21	11.00	10.40	15.20	15.40	Dry	11.62	12.20	11.70	11.34	13.42
Borehole depth to top of casing	m	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99
Top of casing relative to Ordnance Datum Level	m	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33
Water level relative to Ordnance Datum	m	49.03	47.60	47.66	47.65	49.33	49.53	50.13	50.12	50.33	50.93	46.13	45.93		49.71	49.13	49.63	49.99	47.91
Calculated purge volume	litres	136.56																	
Base of Well to Ordnance Datum	m	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34
Gas Concentrations																			
Date monitored	-	23/06/04	04/08/04	25/08/04	27/09/2004	05/11/2004	18/11/2004	15/12/2004	27/01/2005	10/03/2005	20/04/2005	17/05/2005	25/06/2005	24/07/2005	16/08/2005	15/09/2005	28/10/2005	16/11/2005	14/12/2005
Time of measurement	-		11:32	0800hrs	10:30	09:50	11:30	14:00	09:10	10:30	2.27pm	10.55	1.00	10:56	6.21	12:45	16:32	14:04	14:53
Methane	% vol	30.4	22.8	0.4	20.2	41.3	25.5	35.6	37.1	27.4	31.4	26.3	10.4	9.1	16.9	21.1	32	30.8	40.6
Carbon Dioxide	% vol	26.9	19.5	0.2	19.3	29.8	19.9	27.4	26.8	23.2	24.9	15.6	7.5	4.6	14.1	25.1	23.3	26.5	25.6
Oxygen	% vol	0.4	5.7	19.9	6.1	1.6	6	11	1	0.6	17.5	14.2	15.2	12.4	9	0.8	0.8	<0.1	0.6
Atmospheric Pressure	mbar	992	1009	1004	1011	1013	1003	1000	1027	1012	1030	1029	1010	1020	1019	1013	989	1004	1019
Gas Pressure	mbar	0.0		2.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.6	<0.1	<0.1	<0.1	0.1	Not recorded		0	0
Gas Flow Rate	l/hr	0.5		2.9	2.7	2.6	3.9	2.1	2.1	1.6	1.1	<0.1	0.1	<0.1	1.1	0.5		<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units	6.9	6.8	6.9	6.9	6.84	6.81	7.1	7.04	7.1	7.29	6.99	6.21			4.97	6.91	6.9	6.85
Electrical Conductivity	µS/cm	4360	3900	4125	4147	5510	5490	5520	5810	5190	4280	5220	3610			4510	4520	4260	4590
Dissolved Oxygen	mg/l	4..7	4.1	4.2	4.1	13.5	13.3	1.8	6.9	14.8	5.2	0	9.6			1.0	6.7	0.2	0.9
Temperature	℃	12.8	11.9	10.9	11.1	14.1	12.8	12.1	10.4	13	10	13.5	10			17	22.4	11.1	14.3
Comment																			

Cover Level - 61.734m AOD (March 2014)
Ground Level - 60.428m AOD

Cover Level - 61.668m AOD (May 2016)
Ground Level - 60.336m AOD (May 2016)

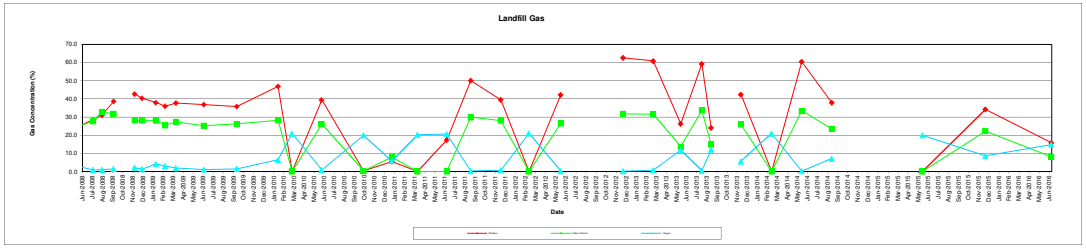


Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N39a																							
Type Of Sample Required	Leachate	10/01/06	16/02/06	20/03/06	13/04/06	05/05/06	26/06/06	24/07/06	09/08/06	12/09/06	03/10/06	08/11/06	06/12/06	11/01/07	08/02/07	12/03/07	19/04/07	10/05/07	07/06/07	25/07/07	13/08/07	05/09/07	11/10/07	13/11/07
Determinand	Units																							
Water Level																								
Water level to top of casing	m	10.78	11.44	10.52	10.48	11.44	11.98	11.95	11.96	12.62	12.74	11.12	10.97	11.32	11.12	10.38	11.42	11.63	11.74	11.32	11.02	11.28	11.28	11.49
Borehole depth to top of casing	m	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99
Top of casing relative to Ordnance Datum Level	m	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33
Water level relative to Ordnance Datum	m	50.55	49.89	50.81	50.85	49.89	49.35	49.38	49.37	48.71	48.59	50.21	50.36	50.01	50.21	50.95	49.91	49.70	49.59	50.01	50.31	50.05	50.05	49.84
Calculated purge volume	litres						36.06	48.32	48.00	48.00	40.00	52.00	54.00	53.36	52.00	57.00	48.00	47.00	46.00	50.00	51.00	50.00	50.00	48.00
Base of Well to Ordnance Datum	m	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34
Gas Concentrations																								
Date monitored	-	10/01/2006	16/02/2006	20/03/2006	13/04/2006	05/05/2006	26/06/2006	24/07/2006	09/08/2006	12/09/2006	03/10/2006	08/11/2006	06/12/2006	11/01/2007	08/02/2007	12/03/2007	19/04/2007	10/05/2007	07/06/2007	25/07/2007	13/08/2007	05/09/2007	11/10/2007	13/11/2007
Time of measurement	-	15:14	13:00	16:40	12:55	13:52	12:00	11:44	12:38	10:45	12:25	13:55	11:30	10:40	11:25	10:15	14:30	15:10	15:10	13:30	12:05	12:50	11:33	14:00
Methane	% vol	37.6	24.50	15.80	15.1	18.3	20.3	24.8	22.6	23.9	27.2	38.7	9.7	37.4	37.5	36.1	24.8	24.2	21.9	36.7	42.2	42.7	38.3	34.0
Carbon Dioxide	% vol	25.3	21.90	17.30	16.2	16.2	20.9	24.0	23.1	24.1	25.4	27.3	28.8	29	27.7	27.0	25.0	25.0	24.2	26.5	28.2	29.3	30.2	29.3
Oxygen	% vol	0.5	2.10	4.00	5.1	4.4	2.2	0.5	1.3	0.6	0.8	0.8	0.7	0.7	0.7	0.6	0.4	0.8	0.3	0.3	0.3	0.2	0.1	0.5
Atmospheric Pressure	mbar	988	966	1014	982	1008	1008	1007	998	1000	992	1002	983	969	987	1005	1010	988	1014	994	988	1015	1009	1000
Gas Pressure	mbar	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1						
Gas Flow Rate	l/hr	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	1.3	0.2	1	<0.1	-0.1						
													11:00											
Insitu Liquid Determinations													12/12/2006											
pH	pH units	6.91	6.91	6.87	7.01	6.47	6.67	6.51	6.45	6.54	6.49	6.58	6.47	6.4	6.4	6.4	6.83	6.81	6.83	6.69	6.67	6.77	6.67	6.85
Electrical Conductivity	µS/cm	4510	4460	3770	2920	4730	4650	4720	4935	6150	5320	7500	6430	15.34	5230	6100	5610	5230	7000	6340	5470	3650	3590	4020
Dissolved Oxygen	mg/l	6.2	2.11	0.26	1.35	0.22	3.30	8.38	5.22	5.55	5.76	0.21	2.63	2.56	1.98	1.56	10.03	2.76	1.40	0.98	1.82	6.22	8.83	6.57
Temperature	℃	14.4	14.9	13.6	15.3	16.1	15.3	15.8	15.5	14.2	14.4	12.2	14.3	14.3	14.8	14.6	13.6	14.3	15.1	14.6	14.7	14.6	14.4	13.1
Comment																			Gas tap broken. Venting reading.	Gas tap broken. Venting reading.	Gas tap broken. Venting reading.	Gas tap broken. Venting reading.	Gas tap broken. Venting reading.	Gas tap broken. Venting reading.

Cover Level - 61.734m AOD (March 2014)
Ground Level - 60.428m AOD

Cover Level - 61.668m AOD (May 2016)
Ground Level - 60.336m AOD (May 2016)

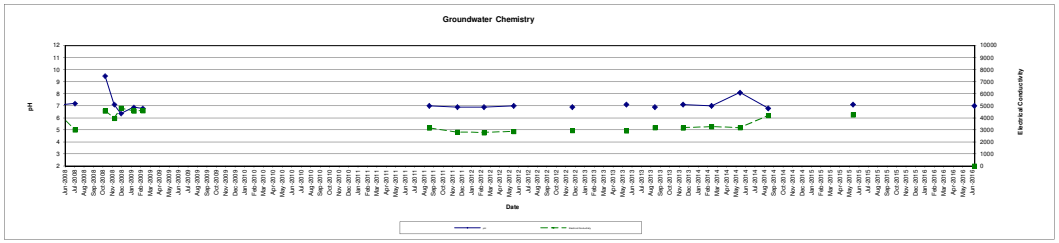


Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N39a**																			
Type Of Sample Required	Leachate	13/12/07	11/01/08	07/02/08	07/03/08	22/04/08	28/05/08	16/06/08	23/07/08	19/08/08	23/09/08	28/10/08	26/11/08	18/12/08	28/01/09	26/02/09	30/03/09	23/06/09	30/09/09
Determinand	Units																		
Water Level																			
Water level to top of casing	m	11.12	11.01	11.06	11.33	11.32	11.06	11.28	11.61	11.48	11.72	11.44	11.49	10.11	11.47	10.39	11.38	11.48	11.45
Borehole depth to top of casing	m	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99	17.99
Top of casing relative to Ordnance Datum Level	m	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33
Water level relative to Ordnance Datum	m	50.21	50.32	50.27	50.00	50.01	50.27	50.05	49.72	49.85	49.61	49.89	49.84	51.22	49.86	50.94	49.95	49.85	49.88
Calculated purge volume	litres	48.00	53.00	55.44	53.28	53.36	55.44	53.68	51.04	52.08	50.16	52.40	52.00	63.04	52.16	60.80	52.88	52.08	52.32
Base of Well to Ordnance Datum	m	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34	43.34
Gas Concentrations																			
Date monitored	-	13/12/2007	11/01/2008	07/02/2008	07/03/2008	22/04/2008	28/05/2008	16/06/2008	23/07/2008	19/08/2008	23/09/2008		26/11/2008	18/12/2008	28/01/2009	26/02/2009	30/03/2009	23/06/2009	30/09/2009
Time of measurement	-	10:50	14:45	15:05	11:00				00:00	16:46	02:52		13:12	14:09	08:52	00:00	13:36	10:48	12:10
Methane	% vol	36.0	34.9	32.8	35.3	31.8	28.3	25.3	28.5	31.0	38.7		42.6	40.4	38.0	36.0	37.7	36.9	35.8
Carbon Dioxide	% vol	29.2	28.6	31.6	27.7	26.1	26.7	25.4	27.7	32.8	31.7		28.3	28.1	28.0	25.5	27.3	25.2	26.2
Oxygen	% vol	0.6	0.7	0.8	0.7	0.2	0.3	2.5	0.9	1.0	1.4		2.2	1.3	4.2	3.1	1.9	1.1	1.4
Atmospheric Pressure	mbar	1023	987	979	987	1009	1002	996	1006	980	1016		1009	999	1012	1010	1007	1024	1012
Gas Pressure	mbar																		
Gas Flow Rate	l/hr																		
Insitu Liquid Determinations																			
pH	pH units	6.74	6.62	6.28	6.61	7.3	7.1	7.1	7.2			9.47	7.1	6.37	6.88	6.78			
Electrical Conductivity	µS/cm	4460	4520	4160	3110	3850	3950	3950	3000			4586	3980	4808	4579	4605			
Dissolved Oxygen	mg/l	7.03	7.45	7.52	4.57							0.40		1.70	0.95	0.78			
Temperature	℃	14.1	13.5	13.7	15.4	12	12	12	9			12.48	11	12.91	12.48	13.24			
Comment		Gas tap broken. Venting reading.	Gas tap broken. Venting reading.	Gas tap broken. Venting reading.	Gas tap broken. Venting reading.	Gas tap broken. Venting reading.	Gas tap broken. Venting reading.	Gas tap broken. Venting reading.	Gas tap broken. Venting reading.	Gas tap broken. Venting reading.	Gas tap broken. Venting reading.	Gas tap broken. Equipment failure.	Gas tap broken. Venting reading.	Gas tap broken. Venting reading.	Gas tap broken. Venting reading.	Gas tap broken. Venting reading.	Gas tap broken. Venting reading.	Gas tap broken. Venting reading.	Gas tap broken. Venting reading.

Cover Level - 61.734m AOD (March 2014)
Ground Level - 60.428m AOD

Cover Level - 61.668m AOD (May 2016)
Ground Level - 60.336m AOD (May 2016)



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N39a**				(Sept mon)	(Dec Mon)																				
Type Of Sample Required	Leachate	02/02/10	16/03/10	14/06/10	18/10/10	12/01/11	31/03/11	27/06/11	07/09/11	07/12/11	01/03/12	05/06/12	06/09/12	11/12/12	12/03/13	03/06/13	06/08/13	03/09/13	03/10/13	03/11/13	02/12/13	04/03/14	03/06/14	02/09/14	03/12/14	03/06/15
Determinand	Units																									
Water Level																										
Water level to top of casing	m	dry	10.20	10.80	10.04	10.13	10.01	11.45	10.22	10.20	10.31	11.14		13.47	13.83	14.22		14.42			15.1	15.39	15.84	16.02		16.7
Borehole depth to top of casing	m	17.99	17.41	17.43	17.40	17.54	17.49	17.49	18.20	17.99	18.04	17.83		18.11	18.07	18.09		18.05			18.07	18.05	18.43	18.08		18.1
Top of casing relative to Ordnance Datum Level	m	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33		61.75	61.75	61.75		61.75			61.75	61.73	61.73	61.73		61.73
Water level relative to Ordnance Datum	m		51.13	50.53	51.29	51.20	51.32	49.88	51.11	51.13	51.02	50.19		48.28	47.92	47.53		47.33			46.65	46.34	45.89	45.71		45.03
Calculated purge volume	litres	143.92																								
Base of Well to Ordnance Datum	m	43.34	43.34	43.90	43.93	43.79	43.84	43.84	43.13	43.34	43.29	43.50		43.64	43.68	43.66		43.70			43.68	43.68	43.30	43.65		43.63
Gas Concentrations																										
Date monitored	-	02/02/2010	16/03/2010	14/06/2010	18/10/2010	12/01/2011	31/03/11	27/06/11	07/09/11	07/12/12	01/03/12	05/06/12		11/12/12	12/03/13	03/06/13	06/08/13	03/09/13			02/12/13	04/03/14	03/06/14	02/09/14		03/06/15
Time of measurement	-	12:43	08:45	17:19	15:40	11:55	12:15	09:35	13:58	10:02	14:17	15:22		10:26	13:20	14:16	14:23	11:01			14:37	13:52	14:18	13:58		10:01
Methane	% vol	46.9	<0.1	39.4	0.4	5.5	<0.1	17.3	50.0	39.5	<0.1	42.1		62.5	60.9	26.3	59.3	24			42.4	<0.1	60.5	37.9		<0.1
Carbon Dioxide	% vol	28.2	0.1	26.1	0.3	7.9	<0.1	<0.1	29.9	28.1	<0.1	26.5		31.8	31.6	13.7	33.7	14.9			26	0.1	33.4	23.5		<0.1
Oxygen	% vol	6.5	20.9	0.9	19.9	5.8	20.3	20.6	0.3	0.8	21.0	0.3		0.2	0.7	11.8	0.5	12			5.6	20.9	0.2	7.2		19.9
Atmospheric Pressure	mbar	1001	1015	1018	997	996	983	1009	991	983	1016	1005		1025	1008	1026	1005	1015			1022	989	1003	1017		1006
Gas Pressure	mbar		-0.06	+/-0.01	-0.08	0.98	-0.01	-0.02	<0.1	<0.1	0.06	0.02		-0.15	-0.19	0.1	-0.26	-0.27			0.37	0.02	-0.16	-0.23		-0.04
Gas Flow Rate	l/hr		+/-0.1	+/-0.1		0.2	0.0	<0.1	NR	-0.1	<0.1	0.2			0.6	0.1	<0.1	<0.1			0.3	-0.5	0.5	0.1		-0.6
Insitu Liquid Determinations																										
pH	pH units								7.0	6.9	6.9	7.0		6.9		7.1		6.9			7.1	7	8.1	6.8		7.1
Electrical Conductivity	µS/cm								3170	2830	2780	2880		2970		2930		3190			3180	3270	3200	4210		4260
Dissolved Oxygen	mg/l								1.3	2.9	2.2	4.2		3.2		3.2		4.6			4.6	5.3				2.4
Temperature	ºC			13.4	13.5		12.2		18.0	11.3	13.0	13.8		8.4	11.7	15.2		17.5			10.7	12.1	15.5	16.3		16.1
Comment		Gas tap broken. Venting reading.						Tip of tap broken off	Tap requires replacing	Gas tap requires replacing	Gas tap requires replacing	OK	Headworks and cover level amended to suit capping level	Gas tap too high for cover			Lid getting very stiff requires attention.	Lid getting very stiff requires attention	Lid getting very stiff and requires attention	Lid getting very stiff and requires attention					Missed during monitoring	

Cover Level - 61.734m AOD (March 2014)
Ground Level - 60.428m AOD

Cover Level - 61.668m AOD (May 2016)
Ground Level - 60.336m AOD (May 2016)

Ness Farm Landfill
Field Monitoring Sheet

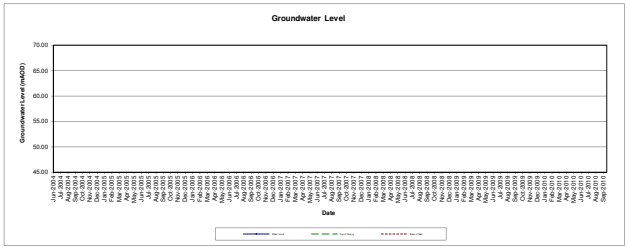
Sampling Location	**N39a**		
Type Of Sample Required	Leachate	11/12/15	27/06/16
Determinand	Units		
Water Level			
Water level to top of casing	m	16.2	16.2
Borehole depth to top of casing	m	18.05	18.26
Top of casing relative to Ordnance Datum Level	m	61.73	61.67
Water level relative to Ordnance Datum	m	45.53	45.47
Calculated purge volume	litres		
Base of Well to Ordnance Datum	m	43.68	43.41
Gas Concentrations			
Date monitored	-	11/12/15	27/06/16
Time of measurement	-	12:30	15:36
Methane	% vol	34.2	15.8
Carbon Dioxide	% vol	22.3	8.2
Oxygen	% vol	8.7	14.9
Atmospheric Pressure	mbar	1000	1005
Gas Pressure	mbar	-0.02	<0.01
Gas Flow Rate	l/hr	0.8	-0.2
Insitu Liquid Determinations			
pH	pH units		7
Electrical Conductivity	µS/cm		4470
Dissolved Oxygen	mg/l		2.2
Temperature	℃		14
Comment			

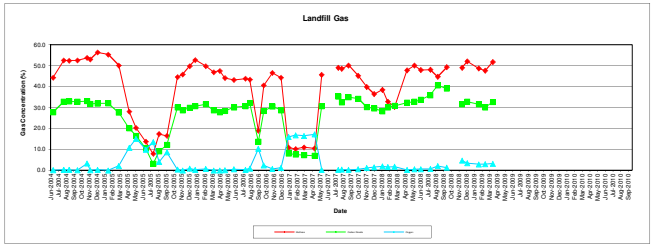
Cover Level - 61.734m AOD (March 2014)
Ground Level - 60.428m AOD

Cover Level - 61.668m AOD (May 2016)
Ground Level - 60.336m AOD (May 2016)

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N40																		
Type Of Sample Required	None	23/06/04	04/08/04	25/08/04	27/09/04	05/11/04	17/11/04	16/12/04	27/01/05	10/03/05	20/04/05	17/05/05	25/06/05	24/07/05	16/08/05	16/09/05	28/10/05	17/11/05	15/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	4.72	4.71	4.72	4.74	4.72	4.70	4.70	4.70	4.80	4.20	Dry	Dry	Dry	Dry	Dry	4.74	Dry	4.69
Borehole depth to top of casing	m	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99
Top of casing relative to Ordnance Datum Level	m	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11
Water level relative to Ordnance Datum	m	62.39	62.40	62.39	62.37	62.39	62.41	62.41	62.41	62.31	62.91						62.37		62.42
Calculated purge volume	litres																		
Base of Well to Ordnance Datum	m	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12
Gas Concentrations																			
Date monitored	-	23/06/04	04/08/04	25/08/04	27/09/2004	05/11/2004	17/11/2004	16/12/2004	27/01/2005	10/03/2005	20/04/2005	17/05/2005	25/06/2005	24/07/2005	16/08/2005	16/09/2005	28/10/2005	17/11/2005	15/12/2005
Time of measurement	-		11:06	1515hrs	1230	09:20	14:15	11:30	09:20	17:30	3.02pm	11.42	1.55	11:20	6.42	12:20	11:52	11:43	14:47
Methane	% vol	44.2	52.5	52.4	52.5	53.7	53	56.3	55.3	50.1	28.1	20.2	13.7	7.8	17.34	16.4	44.5	45.8	49.7
Carbon Dioxide	% vol	27.7	32.7	32.9	32.8	33.1	31.7	31.9	32	27.6	20.1	16.4	10.4	3.1	9.1	12.1	30	28.7	29.9
Oxygen	% vol	0.1	0.3	0.2	0.1	3.3	0.1	0.3	<0.1	2.1	10.7	15.1	9.9	13.5	4	8.6	0.4	<0.1	0.8
Atmospheric Pressure	mbar	1002	1009	996	1007	1011	993	972	1027	1006	1030	1029	1010	1020	1019	1006	989	1010	1005
Gas Pressure	mbar	0.4		<0.1	<0.1	<0.1	1.1	<0.1	1	<0.1	0.1	1.1	1.1	1.2	2	0.1			
Gas Flow Rate	l/hr	1.1		2.7	2.7	2.6	3.8	1.3	1.2	2	0.1	0.1	0.1	1.1	2.1	<0.1			
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment																	No cap	No cap	No valve





Ness Farm Landfill
Field Monitoring Sheet

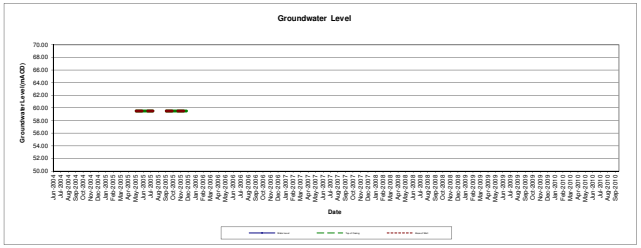
Sampling Location	**N40**																							
Type Of Sample Required	None	06/01/06	16/02/06	20/03/06	13/04/06	03/05/06	08/06/06	24/07/06	10/08/06	12/09/06	04/10/06	07/11/06	11/12/06	10/01/07	07/02/07	12/03/07	23/04/07	21/05/07	07/06/07	25/07/07	08/08/07	04/09/07	12/10/07	15/11/07
Determinand	Units																							
Water Level																								
Water level to top of casing	m	Dry	4.73	4.72	4.73	DRY	DRY	DRY	DRY	4.74	4.72	4.73	4.71	4.73	4.72	4.69	4.70	DRY	-	DRY	4.73	4.73	4.73	4.71
Borehole depth to top of casing	m	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99
Top of casing relative to Ordnance Datum Level	m	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11
Water level relative to Ordnance Datum	m		62.38	62.39	62.38					62.37	62.39	62.38	62.40	62.38	62.39	62.42	62.41				62.38	62.38	62.38	62.40
Calculated purge volume	litres																							
Base of Well to Ordnance Datum	m	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12
Gas Concentrations																								
Date monitored	-	06/01/2006	16/02/2006	20/03/2006	13/04/2006	03/05/2006	08/06/2006	24/07/2006	10/08/2006	12/09/2006	04/10/2006	07/11/2006	11/12/2006	10/01/2007	07/02/2007	12/03/2007	23/04/2007	21/05/2007	07/06/2007	25/07/2007	08/08/2007	04/09/2007	12/10/2007	15/11/2007
Time of measurement	-	15:11	10:35	13:25	11:08	14:30	16:39	10:51	15:28	11:15	11:40	12:45	14:35	13:10	14:43	14:30	11:00	13:00		13:15	13:28	13:38	13:50	15:45
Methane	% vol	52.7	49.80	46.90	47.5	44.1	43.2	43.8	43.3	18.9	40.5	46.5	44.2	10.8	10.2	11.0	10.5	45.6		48.9	48.5	50.1	45.1	39.8
Carbon Dioxide	% vol	30.6	31.50	28.60	27.8	28.3	30.1	30.6	32.2	13.7	28.3	30.5	28.7	8	7.5	7.2	6.9	30.7		35.2	32.5	34.9	34.2	30.2
Oxygen	% vol	0.3	0.70	0.00	0.0	0.1	0.5	0.3	0.9	10.3	2.3	0.7	1.2	16	16.8	16.5	17.2	0.3		0.2	0.4	0.2	0.5	1.1
Atmospheric Pressure	mbar	1015	967	1013	983	996	1011	1007	1005	1009	997	1003	989	994	996	1003	1000	1006		994	1009	1014	1006	1014
Gas Pressure	mbar												<0.1	4.8	2.3	1.9	1.5	2.7		4.8	1	0.3	<0.1	<0.1
Gas Flow Rate	l/hr												<0.1	<0.1	<0.1	<0.1	<0.1	1.1		2.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																								
pH	pH units																							
Electrical Conductivity	µS/cm																							
Dissolved Oxygen	mg/l																							
Temperature	℃																							
Comment		No valve	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap							No access					

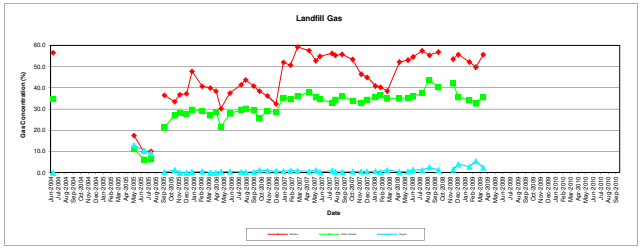
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N40																	
Type Of Sample Required	None	14/12/07	16/01/08	06/02/08	04/03/08	22/04/08	21/05/08	16/06/08	23/07/08	21/08/08	26/09/08	29/10/08	25/11/08	16/12/08	30/01/09	25/02/09	27/03/09	Well removed as part of Phase 1 Restoration Works
Determinand	Units																	
Water Level																		
Water level to top of casing	m	4.62	4.60	4.61	4.60	4.73	4.72	4.73	4.73	4.72	4.75	DRY	DRY	DRY	DRY	DRY	DRY	
Borehole depth to top of casing	m	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	4.99	
Top of casing relative to Ordnance Datum Level	m	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	67.11	
Water level relative to Ordnance Datum	m	62.49	62.51	62.50	62.51	62.38	62.39	62.38	62.38	62.39	62.36							
Calculated purge volume	litres								2.08	2.16	1.92							
Base of Well to Ordnance Datum	m	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	62.12	
Gas Concentrations																		
Date monitored	-	14/12/2007	16/01/2008	06/02/2008	04/03/2008	22/04/2008	21/05/2008	16/06/2008	23/07/2008	21/08/2008	26/09/2008	29/10/2008	25/11/2008	16/12/2008	30/01/2009	25/02/2009	27/03/2009	
Time of measurement	-	14:20	14:10	11:40	14:50				00:00	12:31	00:28		11:16	01:55	02:09	09:21	09:36	
Methane	% vol	36.4	38.5	32.7	30.4	47.7	50	47.9	48.0	44.7	49.3		48.9	52.0	48.7	47.6	51.7	
Carbon Dioxide	% vol	29.5	28.2	30.1	30.8	32.3	32.8	33.7	35.9	40.6	39.0		31.6	32.7	31.5	30.1	32.6	
Oxygen	% vol	1.5	1.9	1.6	1.7	0.2	0.5	0.6	0.7	2.0	1.3		4.6	3.4	2.9	3.0	3.2	
Atmospheric Pressure	mbar	1014	988	1008	1020	1009	1008	997	1006	993	1014		1018	997	1000	1002	975	
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1	0.2	-0.8	<0.1	<0.1	<0.1	<0.1		0.11	0.08	-0.07	0.08	0.10	
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1		0.2	<0.1	<0.1	<0.1	<0.1		0.20	<0.1	<0.1	<0.1	<0.1	
Insitu Liquid Determinations																		
pH	pH units																	
Electrical Conductivity	µS/cm																	
Dissolved Oxygen	mg/l																	
Temperature	ºC																	
Comment												Equipment Failure						

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N41c																		
Type Of Sample Required	None	23/06/04	05/08/04	25/08/04	27/09/04	05/11/04	18/11/04	16/12/04	27/01/05	10/03/05	21/04/05	17/05/05	25/06/05	24/07/05	16/08/05	16/09/05	28/10/05	17/11/05	15/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m											11.26	10.31	11.46		Dry	Dry	Dry	Dry
Borehole depth to top of casing	m																		
Top of casing relative to Ordnance Datum Level	m											59.52	59.52	59.52		59.52	59.52	59.52	59.52
Water level relative to Ordnance Datum	m																		
Calculated purge volume	litres																		
Base of Well to Ordnance Datum	m											59.52	59.52	59.52		59.52	59.52	59.52	59.52
Gas Concentrations																			
Date monitored	-	23/06/04	05/08/04	25/08/04	27/09/2004	05/11/2004	18/11/2004	16/12/2004	27/01/2005	10/03/2005	21/04/2005	17/05/2005	25/06/2005	24/07/2005	16/08/2005	16/09/2005	28/10/2005	17/11/2005	15/12/2005
Time of measurement	-											12.50	3.00	11:43			12:05	12:17	16:09
Methane	% vol	56.6										17.4	9.9	10.1		36.5	33.4	36.8	37.2
Carbon Dioxide	% vol	34.8										11.2	6.1	6.2		21.2	27	28.1	27.7
Oxygen	% vol	<0.1										12.9	10.4	9.1		0.2	1.3	<0.1	<0.1
Atmospheric Pressure	mbar	992										1028	1010	1020		1006	989	1010	1005
Gas Pressure	mbar	0.2										n/a	2.1	0.1		0			
Gas Flow Rate	l/hr	0.8										n/a	1.1	0.1		<0.1			
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment		Could not obtains levels as borehole was blocked	Could not obtains levels as borehole was blocked	Borehole blocked	Bore hole blocked	Bore Hole Blocked	Bore Hole Blocked	Bore Hole Blocked	Bore Hole Blocked	Borehole Blocked	Borehole blocked	No top		No top			No cap	No cap	No valve





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N41c**																								
Type Of Sample Required	None	06/01/06	16/02/06	20/03/06	13/04/06	03/05/06	08/06/06	24/07/06	10/08/06	12/09/06	05/10/06	07/11/06	11/12/06	10/01/07	07/02/07	08/03/07	23/04/07	21/05/07	06/06/07	25/07/07	08/08/07	04/09/07	16/10/07	20/11/07	14/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m																								
Borehole depth to top of casing	m																								
Top of casing relative to Ordnance Datum Level	m																								
Water level relative to Ordnance Datum	m																								
Calculated purge volume	litres																								
Base of Well to Ordnance Datum	m																								
Gas Concentrations																									
Date monitored	-	06/01/2006	16/02/2006	20/03/2006	13/04/2006	03/05/2006	08/06/2006	24/07/2006	10/08/2006	12/09/2006	05/10/2006	07/11/2006	11/12/2006	10/01/2007	07/02/2007	08/03/2007	23/04/2007	21/05/2007	06/06/2007	25/07/2007	08/08/2007	04/09/2007	16/10/2007	20/11/2007	14/12/2007
Time of measurement	-	14:56	11:06	13:45	11:22	15:00	16:16	11:15	13:40	11:07	14:05	13:12	14:50	13:36	15:10	10:10	11:25	14:55	14:20	12:56	12:54	14:18	15:05	13:00	14:45
Methane	% vol	47.8	40.70	40.00	38.5	30.2	37.5	41.5	43.7	40.8	38.4	36.2	32.4	52	50.7	59.2	57.6	52.8	54.9	56.2	55.3	55.8	53.4	46.4	45.0
Carbon Dioxide	% vol	29.7	29.10	27.00	28.6	21.7	27.9	29.6	30.2	29.4	25.6	29.0	28.5	35.2	34.6	36.0	37.9	35.6	34.7	32.8	34.4	36.0	33.9	32.8	34.3
Oxygen	% vol	0.4	0.60	0.00	0.0	0.5	0.5	0.3	0.2	0.3	1.1	0.9	0.7	0.7	0.9	0.8	0.6	1.1	0.4	0.8	0.4	0.3	0.5	0.6	0.5
Atmospheric Pressure	mbar	1016	967	1013	983	997	1012	1007	1004	1010	1009	1003	990	996	998	1007	1001	1007	1016	994	1012	1014	995	1010	1023
Gas Pressure	mbar		No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	<0.1	2.8	2.1	1.5	1.2	0.8	2.9	2	0.2	<0.1	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr		No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	ºC																								
Comment		No valve	No Cap/ Borehole Blocked With Rubbish	No Cap/ Borehole Blocked With Rubbish	No Cap/ Borehole Blocked With Rubbish	No Cap/ Borehole Blocked With Rubbish	No Cap/ Borehole Blocked With Rubbish	No Cap/ Borehole Blocked With Rubbish	Blocked	No Cap/ Borehole Blocked With Rubbish	No Cap/ Borehole Blocked With Rubbish	No Cap/ Borehole Blocked With Rubbish	Blocked	Borehole Blocked	Blocked	Blocked	Blocked	Blocked	Blocked	Blocked	Blocked	Blocked	Blocked	Blocked	Blocked

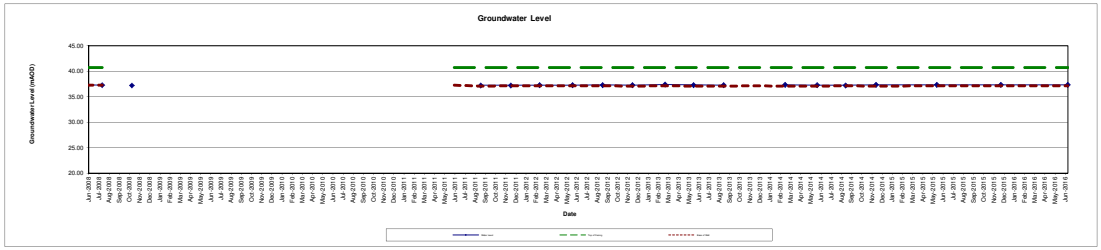
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N41c**																
Type Of Sample Required	None	16/01/08	06/02/08	04/03/08	22/04/08	27/05/08	16/06/08	23/07/08	21/08/08	26/09/08	29/10/08	25/11/08	16/12/08	30/01/09	25/02/09	27/03/09	
Determinand	Units																
Water Level																	
Water level to top of casing	m																
Borehole depth to top of casing	m																
Top of casing relative to Ordnance Datum Level	m																
Water level relative to Ordnance Datum	m																
Calculated purge volume	litres																
Base of Well to Ordnance Datum	m																
Gas Concentrations																	
Date monitored	-	16/01/2008	06/02/2008	04/03/2008	22/04/2008	27/05/2008	16/06/2008	23/07/2008	21/08/2008	26/09/2008	29/10/2008	25/11/2008	16/12/2008	30/01/2009	25/02/2009	27/03/2009	
Time of measurement	-	15:30	13:05	15:30				00:00	10:55	11:16		13:26	10:33	06:43	05:02	12:28	
Methane	% vol	40.9	40.2	38.5	52.1	53.1	54.6	57.4	55.4	56.8		53.6	55.7	52.1	49.8	55.6	
Carbon Dioxide	% vol	35.6	36.4	34.9	35	35.2	35.8	37.5	43.5	40.3		42.1	35.5	34.1	32.5	35.6	
Oxygen	% vol	0.7	0.4	1.2	0.4	0.6	1.3	1.2	2.5	1.3		1.4	3.9	2.8	5.4	2.3	
Atmospheric Pressure	mbar	988	1009	1021	1014	1013	999	1009	995	1015		1019	998	1002	1003	975	
Gas Pressure	mbar	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	-1.9		0.09	-1.69	0.02	0.02	-0.05	
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1		<0.1	0.3	<0.1	<0.1	<0.1		<0.1	<0.2	<0.1	<0.1	<0.1	
Insitu Liquid Determinations																	
pH	pH units																
Electrical Conductivity	µS/cm																
Dissolved Oxygen	mg/l																
Temperature	ºC																
Comment		Blocked	Blocked	Blocked	Blocked	Blocked	Blocked	Blocked	Blocked	Blocked	Borehole Blocked Equipment Failure	Blocked	Blocked	Blocked	Blocked	Blocked	

Well removed as part of Phase 1 Restoration Works

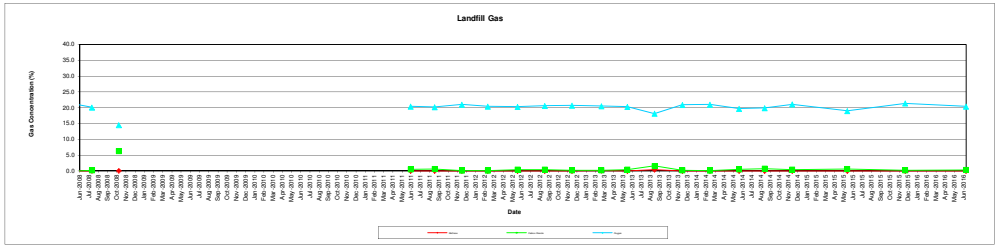
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N42																								
Type Of Sample Required	None	23/06/04	05/08/04	25/08/04	27/09/04	05/11/04	18/11/04	16/12/04	27/01/05	10/03/05	21/04/05	17/05/05	25/06/05	24/07/05	16/08/05	15/09/05	28/10/05	17/11/05	15/12/05	10/01/06	09/02/06	22/03/06	12/04/06	05/05/06	26/06/06
Determinand	Units																								
Water Level																									
Water level to top of casing	m	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry			Dry	Dry	Dry	3.61	DRY	DRY	DRY	DRY	DRY
Borehole depth to top of casing	m	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49			3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49
Top of casing relative to Ordnance Datum Level	m	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74
Water level relative to Ordnance Datum	m																			37.13					
Calculated purge volume	litres																								
Base of Well to Ordnance Datum	m	37.25	37.25	37.25	37.25	37.25	37.25	37.25	37.25	37.25	37.25	37.25	37.25	37.25			37.25	37.25	37.25	37.25	37.25	37.25	37.25	37.25	37.25
Gas Concentrations																									
Date monitored	-	23/06/04	05/08/04	25/08/04	27/09/2004	05/11/2004	18/11/2004	16/12/2004	27/01/2005	10/03/2005	21/04/2005	17/05/2005	25/06/2005	24/07/2005	16/08/2005	15/09/2005	28/10/2005	17/11/2005	15/12/2005	10/01/2006	09/02/2006	22/03/2006	12/04/2006	05/05/2006	26/06/2006
Time of measurement	-		11:30	1720hrs	12:35	10:00	12:00	14:00	09:40	11:20	8.36am	14.20	4.40	12:41		12:40	15:11	12:43	10:11	15:02	14:28	10:30	12:35	13:42	11:47
Methane	% vol	<0.1	0.2	0.2	0.1	0.1	0.1	<0.1	<0.1	<0.1	36.7	24.9	17.5	15.3			<0.1	<0.1	<0.1	0.2	0.00	0.00	0.0	0.0	0.0
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	29.8	15.9	12.4	7.8			<0.1	<0.1	<0.1	<0.1	0.00	0.00	0.0	0.0	0.1
Oxygen	% vol	20.5	20.1	20.3	21	19.8	19.6	18.9	20.2	20.8	18.6	10.2	15.6	12.6			20.8	20	20.3	21	20.90	19.50	20.3	20.7	20.6
Atmospheric Pressure	mbar	996	1014	998	1008	1010	1003	972	1028	1014	1030	1029	1010	1020			992	1013	1015	992	1014	1011	1001	1011	1011
Gas Pressure	mbar	0.0		<0.1	<0.1	1	1	0.3	0.1	1.6	1.1	0.1	2.6	<0.1				0	0	0.6	0.9	0.5	0.3	0.5	<0.1
Gas Flow Rate	l/hr	<0.1		2.6	2.6	2.3	2.4	1.3	1.2	1.2	0.1	0.1	1.4	<0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment															Blocked	Blocked									



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N42																									
Type Of Sample Required	None	24/07/06	09/08/06	12/09/06	05/10/06	09/11/06	12/06/06	11/01/07	07/02/07	14/03/07	18/04/07	21/05/07	06/06/07	24/07/07	10/08/07	13/09/07	12/10/07	15/11/07	11/12/07	17/01/08	07/02/08	04/03/08	22/04/08	27/05/08	16/06/08	31/07/08
Determinand	Units																									
Water Level																										
Water level to top of casing	m	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	3.56	3.72	3.51	3.60	3.60	DRY	3.47	3.41	3.44	3.42			3.43	3.45
Borehole depth to top of casing	m	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49	3.49			3.49	3.49
Top of casing relative to Ordnance Datum Level	m	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74			40.74	40.74
Water level relative to Ordnance Datum	m												37.18	37.02	37.23	37.14	37.14		37.27	37.33	37.30	37.32			37.31	37.29
Calculated purge volume	litres																									0
Base of Well to Ordnance Datum	m	37.25	37.25	37.25	37.25	37.25	37.25	37.25	37.25	37.25	37.25	37.25	37.25	37.25	37.25	37.25	37.25	37.25	37.25	37.25	37.25	37.25			37.25	37.25
Gas Concentrations																										
Date monitored	-	24/07/2006	09/08/2006	12/09/2006	05/10/2006	09/11/2006	12/06/2006	11/01/2007	07/02/2007	14/03/2007	18/04/2007	21/05/2007	06/06/2007	24/07/2007	10/08/2007	13/09/2007	12/10/2007	15/11/2007	11/12/2007	17/01/2008	07/02/2008	04/03/2008			16/06/2008	31/07/2008
Time of measurement	-	10:29	15:03	15:34	13:52	14:38	11:00	16:00	14:20	16:10	15:15	15:45	15:10	11:00	11:00	12:40	10:55	12:20	12:39	12:10	11:30	15:55				00:00
Methane	% vol	0.0	0.0	0.0	0.0	0.1	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0
Carbon Dioxide	% vol	0.3	0.2	0.5	1.5	1.2	0.9	0.1	0.2	0.0	0.0	0.3	0.3	1.0	0.3	0.2	0.0	0.4	0.3	0.2	0.0	0.0			0.0	0.2
Oxygen	% vol	20.4	20.5	20.2	19.6	19.7	19.8	20.8	20.7	20.9	20.9	20.5	20.8	18.9	20.1	20.3	20.5	21.0	20.8	20.9	20.9	20.8			20.9	20.1
Atmospheric Pressure	mbar	1011	1000	1004	1010	1023	982	976	999	1019	1005	1009	1019	997	1010	1014	1008	1015	1022	983	981	1022			1000	1003
Gas Pressure	mbar	2	<0.1	2.7	2	2.2	1.8	0.3	0.2	<0.1	<0.1	1.9	1.7	<0.1	-1.6	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1			<0.1	<0.1
Gas Flow Rate	l/hr	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			<0.1	<0.1
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	ºC																									
Comment																							Inaccessible	Inaccessible		



Ness Farm Landfill
Field Monitoring Sheet

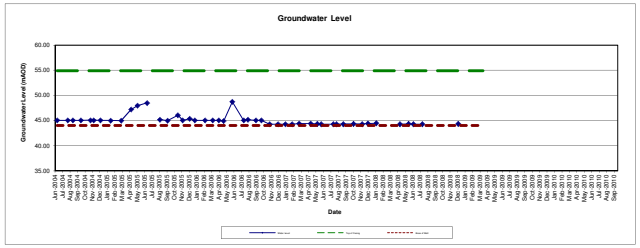
Sampling Location	**N42**																						
Type Of Sample Required	None	19/08/08	26/09/08	28/10/08	25/11/08	16/12/08	25/01/09	28/02/09	27/03/09	28/04/09	29/05/09	24/06/09	31/07/09	27/08/09	23/09/09	30/11/09	18/12/09	02/02/10	23/02/10	27/04/10	05/05/10	14/06/10	15/11/10
Determinand	Units																						
Water Level																							
Water level to top of casing	m			DRY																			
Borehole depth to top of casing	m			3.49																			
Top of casing relative to Ordnance Datum Level	m			40.74																			
Water level relative to Ordnance Datum	m			37.25																			
Calculated purge volume	litres			0																			
Base of Well to Ordnance Datum	m			39.25																			
Gas Concentrations																							
Date monitored	-			28/10/2008																			
Time of measurement	-			13:55																			
Methane	% vol			0.0																			
Carbon Dioxide	% vol			6.3																			
Oxygen	% vol			14.5																			
Atmospheric Pressure	mbar			998																			
Gas Pressure	mbar			<0.1																			
Gas Flow Rate	l/hr			0.30																			
Insitu Liquid Determinations																							
pH	pH units																						
Electrical Conductivity	µS/cm																						
Dissolved Oxygen	mg/l																						
Temperature	ºC																						
Comment		Inaccessible	Inaccessible		Inaccessible	Inaccessible	Inaccessible	Inaccessible	Inaccessible	Inaccessible	Inaccessible	Inaccessible	Inaccessible	Inaccessible	Inaccessible	Inaccessible	Inaccessible	SIEZED	No access, fenced off	Bolt seized on, unable to sample.	Bolt seized on, unable to sample.	Bolt seized on, unable to sample.	Monitoring not undertaken due to adverse weather

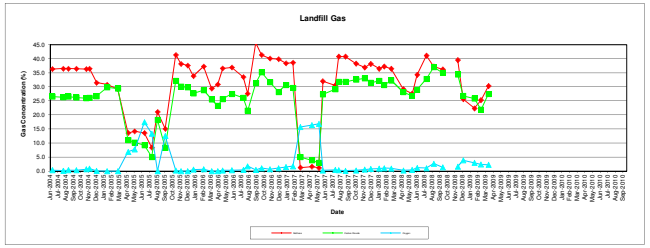
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N42**	(Dec Mon)																			
Type Of Sample Required	None	10/01/10	31/03/11	20/06/11	07/09/11	06/12/11	01/03/12	08/06/12	06/09/12	04/12/12	12/03/13	05/06/13	03/09/13	04/12/13	05/03/14	09/06/14	02/09/14	02/12/14	02/06/15	11/12/15	28/06/16
Determinand	Units																				
Water Level																					
Water level to top of casing	m			3.45	3.49	3.48	3.46	3.44	3.42	3.44	3.35	3.42	3.47	Dry	3.39	3.44	3.48	3.37	3.39	3.38	3.38
Borehole depth to top of casing	m				3.62	3.60	3.61	3.61	3.61	3.62	3.60	3.62	3.67	3.6	3.62	3.62	3.61	3.62	3.58	3.61	3.61
Top of casing relative to Ordnance Datum Level	m			40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74	40.74
Water level relative to Ordnance Datum	m				37.25	37.26	37.28	37.30	37.32	37.30	37.39	37.32	37.27		37.35	37.30	37.26	37.37	37.35	37.36	37.36
Calculated purge volume	litres																				
Base of Well to Ordnance Datum	m			37.25	37.12	37.14	37.13	37.13	37.13	37.12	37.14	37.12	37.07	37.14	37.12	37.12	37.13	37.12	37.16	37.13	37.13
Gas Concentrations																					
Date monitored	-			20/06/11	07/09/11	06/12/12	01/03/12	08/06/12	06/09/12	04/12/12	12/03/13	05/06/13	03/09/13	04/12/13	05/03/14	09/06/14	02/09/14	02/12/14	02/06/15	11/12/15	28/06/16
Time of measurement	-			14:25	16:59	13:18	13:50	10:52	09:51	15:19	11:15	14:42	15:13	12:52	13:09	11:13	13:37	13:22	14:42	11:55	14:50
Methane	% vol			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol			0.5	0.6	0.1	0.1	0.4	0.4	0.2	0.2	0.4	1.6	0.2	0.1	0.5	0.7	0.4	0.6	0.2	0.3
Oxygen	% vol			20.4	20.2	21.0	20.4	20.3	20.6	20.7	20.5	20.3	18.1	20.9	21	19.7	19.9	21.1	19	21.4	20.4
Atmospheric Pressure	mbar			1005	993	997	1018	991	1015	1003	1011	1019	1018	1016	1010	1014	1019	1017	982	1003	1006
Gas Pressure	mbar			0.00	-0.05	<0.1	-0.02	-0.05	<0.01	0.63	-0.06	-0.19	0.24	0.17	-0.04	-0.34	-0.2	0.07	-0.07	0.06	<0.01
Gas Flow Rate	l/hr			<0.1	<0.1	-0.2	0.1	<0.1	0.1	<0.1	<0.1	0.2	0.1	0.1	0.1	-0.1	<0.1	0.2	0.3	-0.1	<0.1
Insitu Liquid Determinations																					
pH	pH units																				
Electrical Conductivity	µS/cm																				
Dissolved Oxygen	mg/l																				
Temperature	℃																				14.2
Comment		Bolt seized	Bolt seized																		

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N43																		
Type Of Sample Required	None	23/06/04	05/08/04	25/08/04	27/09/04	05/11/04	18/11/04	16/12/04	27/01/05	11/03/05	21/04/05	17/05/05	25/06/05	24/07/05	16/08/05	16/09/05	28/10/05	17/11/05	15/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	9.88	9.88	9.86	9.86	9.83	9.83	9.87	9.89	9.91	7.70	6.92	6.40		9.70	9.90	8.84	9.87	9.53
Borehole depth to top of casing	m	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90
Top of casing relative to Ordnance Datum Level	m	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91
Water level relative to Ordnance Datum	m	45.03	45.03	45.05	45.05	45.08	45.08	45.04	45.02	45.00	47.21	47.99	48.51		45.21	45.01	46.07	45.04	45.38
Calculated purge volume	litres																		
Base of Well to Ordnance Datum	m	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01
Gas Concentrations																			
Date monitored	-	23/06/04	05/08/04	25/08/04	27/09/2004	05/11/2004	18/11/2004	16/12/2004	27/01/2005	11/03/2005	21/04/2005	17/05/2005	25/06/2005	24/07/2005	16/08/2005	16/09/2005	28/10/2005	17/11/2005	15/12/2005
Time of measurement	-		12:10	1440hrs	12:45	10:05	12:05	11:40	09:50	12:05	9.45am	15.50	5.55	13:20	7.21		12:15	12:23	16:22
Methane	% vol	36.3	36.5	36.5	36.4	36.3	36.4	31.5	30.8	29.2	13.6	14.2	13.6	8.4	21.1	15.1	41.4	38.2	37.6
Carbon Dioxide	% vol	26.5	26.3	26.5	26.2	26	26.1	26.7	29.8	29.4	11.1	10.2	9.2	5.1	18.2	8.4	32.1	30.1	29.8
Oxygen	% vol	0.4	0.2	0.4	0.4	0.7	0.9	0.1	<0.1	<0.1	6.9	7.8	17.4	13.4	<0.1	12.5	0.3	<0.1	<0.1
Atmospheric Pressure	mbar	992	1014	2.6	1008	1010	1003	973	1028	1019	1030	1021	1010	1020	1019	1006	989	1011	1005
Gas Pressure	mbar	0.0		2.7	2.5	2.5	2.4	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.1	0.1	1.4		0	0
Gas Flow Rate	l/hr	0.5			2.7	2.6	2.6	1.2	1.4	1.2	0.1	0.1	0.1	<0.1	<0.1	0.3		<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment																			





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N43**																							
Type Of Sample Required	None	06/01/06	16/02/06	20/03/06	13/04/06	03/05/06	08/06/06	24/07/06	10/08/06	12/09/06	05/10/06	07/11/06	11/12/06	10/01/07	07/02/07	08/03/07	23/04/07	21/05/07	06/06/07	25/07/07	08/08/07	04/09/07	16/10/07	20/11/07
Determinand	Units																							
Water Level																								
Water level to top of casing	m	9.88	9.87	9.88	9.86	9.98	6.18	9.88	9.75	9.87	9.85	10.63	10.61	10.62	10.61	10.49	10.51	10.55	10.62	10.64	10.62	10.59	10.58	10.59
Borehole depth to top of casing	m	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90
Top of casing relative to Ordnance Datum Level	m	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91
Water level relative to Ordnance Datum	m	45.03	45.04	45.03	45.05	44.93	48.73	45.03	45.16	45.04	45.06	44.28	44.30	44.29	44.30	44.42	44.40	44.36	44.29	44.27	44.29	44.32	44.33	44.32
Calculated purge volume	litres																							
Base of Well to Ordnance Datum	m	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01
Gas Concentrations																								
Date monitored	-	06/01/2006	16/02/2006	20/03/2006	13/04/2006	03/05/2006	08/06/2006	24/07/2006	10/08/2006	12/09/2006	05/10/2006	07/11/2006	11/12/2006	10/01/2007	07/02/2007	08/03/2007	23/04/2007	21/05/2007	06/06/2007	25/07/2007	08/08/2007	04/09/2007	16/10/2007	20/11/2007
Time of measurement	-	14:47	10:59	13:48	11:29	15:03	16:03	11:00	14:42	11:00	14:10	13:03	11:15	13:45	15:20	10:25	11:35	15:05	14:30	13:02	13:01	14:27	15:20	13:15
Methane	% vol	33.8	37.20	29.40	30.9	36.6	36.9	33.5	27.6	45.6	41.3	40.1	39.9	38.4	38.6	1.3	1.6	1.2	32.0	30.5	40.8	40.8	38.3	36.9
Carbon Dioxide	% vol	27.7	28.80	25.50	23.2	25.7	27.5	26.1	21.5	31.3	35.2	31.7	28.2	30.7	29.6	5.0	3.9	3.0	27.3	29.2	31.8	31.8	32.6	33.0
Oxygen	% vol	0.6	0.70	0.00	0.0	0.3	0.4	0.5	1.8	0.5	1.1	0.7	1.1	1.5	1.8	15.7	16.4	16.9	0.3	0.5	0.4	0.2	0.3	0.6
Atmospheric Pressure	mbar	1017	968	1014	984	998	1013	1009	1005	1010	1009	1004	990	996	998	1007	1001	1007	1017	994	1012	1014	995	1010
Gas Pressure	mbar	0.1	0.5	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1
Gas Flow Rate	l/hr	<0.1	0.2	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																								
pH	pH units																							
Electrical Conductivity	µS/cm																							
Dissolved Oxygen	mg/l																							
Temperature	ºC																							
Comment			Switch On Tap Broken	Switch On Tap Broken	Switch On Tap Broken	Switch On Tap Broken	Switch On Tap Broken	Switch On Tap Broken	Switch On Tap Broken	Switch On Tap Broken	Switch On Tap Broken	Switch On Tap Broken				Broken Switch on valve	Broken Switch on valve	Broken Switch on valve	Broken Switch on valve					

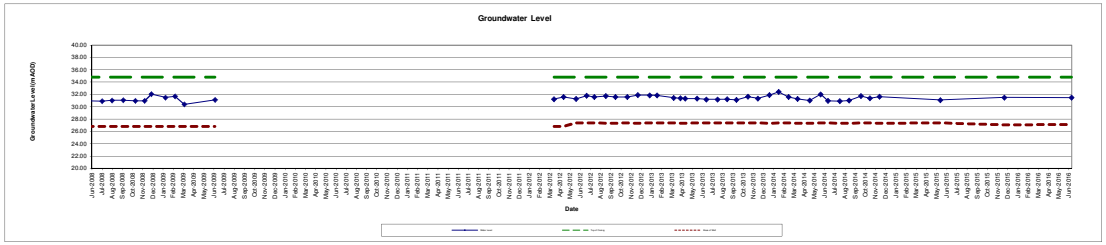
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N43**																	
Type Of Sample Required	None	14/12/07	16/01/08	06/02/08	04/03/08	22/04/08	27/05/08	16/06/08	23/07/08	21/08/08	26/09/08	29/10/08	25/11/08	16/12/08	30/01/09	25/02/09	27/03/09	
Determinand	Units																	
Water Level																		
Water level to top of casing	m	10.51	10.42	DRY	DRY	10.61	10.58	10.61	10.63	DRY	DRY	DRY	DRY	10.53	DRY	DRY	DRY	
Borehole depth to top of casing	m	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	10.90	
Top of casing relative to Ordnance Datum Level	m	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	54.91	
Water level relative to Ordnance Datum	m	44.40	44.49			44.30	44.33	44.30	44.28					44.38				
Calculated purge volume	litres																	
Base of Well to Ordnance Datum	m	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	44.01	
Gas Concentrations																		
Date monitored	-	14/12/2007	16/01/2008	06/02/2008	04/03/2008	22/04/2008	27/05/2008	16/06/2008	23/07/2008	21/08/2008	26/09/2008		25/11/2008	16/12/2008	30/01/2009	25/02/2009	27/03/2009	
Time of measurement	-	15:00	15:45	13:20	15:40				00:00	10:46	12:14		14:09	11:45	05:31	05:45	13:40	
Methane	% vol	38.2	36.5	37.2	36.4	29.2	27.6	34.3	41.1	37.2	36.2		39.5	25.6	22.4	25.3	30.3	
Carbon Dioxide	% vol	31.4	32.1	30.6	32.3	28.1	26.8	29.0	32.8	37.0	35.0		34.4	26.8	25.9	21.9	27.5	
Oxygen	% vol	0.8	0.9	1.1	1.0	0.3	0.5	1.2	1.1	2.7	1.4		1.6	3.9	3.0	2.4	2.3	
Atmospheric Pressure	mbar	1023	988	1009	1021	1014	1013	999	1009	996	1017		1019	999	1002	1003	975	
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		0.12	0.08	0.16	0.06	0.02	
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	0.10	<0.1	0.10	<0.1	
Insitu Liquid Determinations																		
pH	pH units																	
Electrical Conductivity	µS/cm																	
Dissolved Oxygen	mg/l																	
Temperature	℃																	
Comment												Equipment Failure						

Well removed as part of Phase 1 Restoration Works

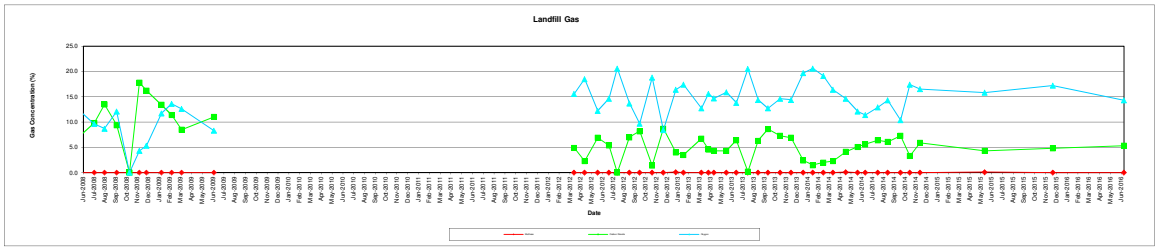
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N44																		
Type Of Sample Required	Groundwater	23/06/04	05/08/04	25/08/04	29/09/04	05/11/04	18/11/04	15/12/04	27/01/05	10/03/05	21/04/05	17/05/05	25/06/05	24/07/05	16/08/05	14/09/05	01/11/05	18/11/05	15/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	4.84	4.85	4.87	4.89	4.86	4.80	3.80	3.80	2.50	3.60	4.20	4.10	5.25		3.73	3.72	3.89	3.48
Borehole depth to top of casing	m	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
Top of casing relative to Ordnance Datum Level	m	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78
Water level relative to Ordnance Datum	m	29.94	29.93	29.91	29.89	29.92	29.98	30.98	30.98	32.28	31.18	30.58	30.68	29.53		31.05	31.06	30.89	31.30
Calculated purge volume	litres	75.84																	
Base of Well to Ordnance Datum	m	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78
Gas Concentrations																			
Date monitored	-	23/06/04	05/08/04	25/08/04	29/09/2004	05/11/2004	18/11/2004	15/12/2004	27/01/2005	10/03/2005	21/04/2005	17/05/2005	25/06/2005	24/07/2005	16/08/2005	14/09/2005	01/11/2005	18/11/2005	15/12/2005
Time of measurement	-		12:15	1730hrs	12:30	10:10	12:15	15:00	10:00	16:50	1030am	4.44	7.00	14:09		14:20	11:25	10:40	10:23
Methane	% vol	<0.1	0.1	0.1	0.2	0.2	0.1	<0.1	0.1	<0.1	16.2	15.4	14.9	11.1		9.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	8.3	8.4	8.3	5.7	5.6	5.6	0.4	0.3	0.1	8.7	7.9	11.1	6.4		4.6	7.3	12.3	0.4
Oxygen	% vol	11.2	11	11.2	15.3	15.3	15.4	20.5	20	21.6	4.9	9.2	21.1	15.6		17.5	15.5	11.8	20.4
Atmospheric Pressure	mbar	996	1013	998	1018	1009	1003	1003	1028	1019	1028	1021	1010	1020		1006	996	1024	1015
Gas Pressure	mbar	0.0		<0.1	7.4	7.3	7.3	2.3	2.2	<0.1	2.1	1.1	<0.1	1.1		0		4.7	2.7
Gas Flow Rate	l/hr	<0.1		2.6	2.7	2.6	2.6	2	2.4	1.7	1.4	0.1	0.1	0.1		<0.1		0.7	<0.1
Insitu Liquid Determinations																			
pH	pH units	6.55						6.78			7.01	6.4	7.56			6.9			6.55
Electrical Conductivity	µS/cm	3560						3870			3280	2372	4500			274			1224
Dissolved Oxygen	mg/l	3.55						22.7			1.1	21.2	10.9			4.6			6.36
Temperature	℃	9.8						8.9			10	10.9	10			12.3			10.4
Comment					Unable to sample. Wattera tubing stuck in borehole	Not required	Not required			Watera Jammed half way down									



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N44																							
Type Of Sample Required	Groundwater	06/01/06	16/02/06	23/03/06	18/04/06	08/05/06	06/06/06	18/07/06	10/08/06	12/09/06	05/10/06	10/11/06	12/12/06	12/01/07	09/02/07	14/03/07	23/04/07	22/05/07	14/06/07	24/07/07	10/08/07	07/09/07	16/10/07	13/11/07
Determinand	Units																							
Water Level																								
Water level to top of casing	m	3.50	3.68	3.50	3.47	3.56	3.79	3.99	3.95	4.08	4.03	3.73	3.72	3.75	3.75	3.39	3.40	3.92	3.83	3.62	3.76	3.91	3.97	3.94
Borehole depth to top of casing	m	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
Top of casing relative to Ordnance Datum Level	m	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78
Water level relative to Ordnance Datum	m	31.28	31.10	31.28	31.31	31.22	30.99	30.79	30.83	30.70	30.75	31.05	31.06	31.03	31.03	31.39	31.38	30.86	30.95	31.16	31.02	30.87	30.81	30.84
Calculated purge volume	litres						25.00	N/A	N/A	30.00	N/A	N/A	32.00	N/A	N/A	36.00	N/A	N/A	32.00	N/A	N/A	32.00	N/A	N/A
Base of Well to Ordnance Datum	m	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78
Gas Concentrations																								
Date monitored	-	06/01/2006	16/02/2006	23/03/2006	18/04/2006	08/05/2006	06/06/2006	18/07/2006	10/08/2006	12/09/2006	05/10/2006	10/11/2006	12/12/2006	12/01/2007	09/02/2007	14/03/2007	23/04/2007	22/05/2007	14/06/2007	24/07/2007	10/08/2007	07/09/2007	16/10/2007	13/11/2007
Time of measurement	-	14:36	12:22	14:50	12:25	12:35	16:02	12:48	12:35	14:25	10:25	13:25	10:00	14:00	16:10	16:20	10:30	11:10	13:15	11:35	11:40	12:00	11:35	11:50
Methane	% vol	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	10.2	9.70	9.00	8.2	10.2	11.3	7.0	6.1	10.5	11.4	17.0	16.8	13.9	14.3	15.7	16.3	3.0	2.7	11.3	12.9	11.0	15.4	12.3
Oxygen	% vol	12.9	12.60	11.90	12.6	12.8	8.0	13.0	14.5	10.7	10.2	7.0	6.2	9.9	8.7	8.1	8.4	14.9	15.5	8.4	6.8	8.5	6.0	11.2
Atmospheric Pressure	mbar	1020	970	1002	1003	1017	1016	1016	1009	1001	1001	1007	991	984	1004	1019	1002	1009	1002	997	1010	1021	997	1004
Gas Pressure	mbar	5.3	<0.1	0.7	0.5	0.4	0.7	2.5	2.7	3.4	2.9	<0.1	<0.1	0.7	0.5	<0.1	<0.1	+2.0	+1.4	<0.1	<0.1	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																								
pH	pH units			6.28			6.92			6.41			6.46			6.36			6.23			6.74		
Electrical Conductivity	µS/cm			1230			3600			6590			3160			1843			144			3080		
Dissolved Oxygen	mg/l			4.23			6.31			3.81			1.89			1.35			1.52			5.94		
Temperature	ºC			9.3			9.7			11.5			10.4			8.9			9.9			11.2		
Comment								Switch On Tap Broken	Switch On Tap Broken/ Cover Flat To Ground															



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N44**																		
Type Of Sample Required	Groundwater	12/12/07	00/01/00	06/02/08	06/03/08	22/04/08	27/05/08	11/06/08	22/07/08	20/08/08	23/09/08	29/10/08	26/11/08	16/12/08	27/01/09	25/02/09	25/03/09	24/06/09	30/09/09
Determinand	Units																		
Water Level																			
Water level to top of casing	m	3.53		3.51		3.47	3.76	3.80	3.88	3.74	3.73	3.81	3.80	2.74	3.28	3.08	4.37	3.65	
Borehole depth to top of casing	m	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	
Top of casing relative to Ordnance Datum Level	m	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	
Water level relative to Ordnance Datum	m	31.25		31.27		31.31	31.02	30.98	30.90	31.04	31.05	30.97	30.98	32.04	31.50	31.70	30.41	31.13	
Calculated purge volume	litres	36.00		35.92	64.00	36.24	33.92	33.60	32.96	34.08	34.16	33.52	33.60	42.08	37.76	39.36	29.04	34.80	
Base of Well to Ordnance Datum	m	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	26.78	
Gas Concentrations																			
Date monitored	-	12/12/2007		06/02/2008	06/03/2008	22/04/2008	27/05/2008	11/06/2008	22/07/2008	20/08/2008	23/09/2008	29/10/2008	26/11/2008	16/12/2008	27/01/2009	25/02/2009	25/03/2009	24/06/2009	
Time of measurement	-	15:00		15:45					00:00	16:26	01:12	00:00	02:52	05:02	02:38	01:26	15:49	13:02	
Methane	% vol	0.0		0.0	No Access	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Carbon Dioxide	% vol	16.7		15.2	Bulls In	7.9	4.1	7.2	9.8	13.5	9.4	0.0	17.8	16.2	13.4	11.4	8.5	11.0	
Oxygen	% vol	5.9		8.6	Field	12.6	15.6	12.2	9.6	8.7	12.1	0.0	4.3	5.3	11.7	13.6	12.6	8.3	
Atmospheric Pressure	mbar	1025		1010		1012	1017	1010	1004	992	1020	0	1015	1002	1011	1005	997	1025	
Gas Pressure	mbar	<0.1		<0.1		>0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	0.71	1.86	0.00	0.01	0.01	0.03	
Gas Flow Rate	l/hr	<0.1		<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	0.00	<0.1	0.80	<0.1	<0.1	<0.1	<0.1	
Insitu Liquid Determinations																			
pH	pH units	6.26		6.31		6.8	7.6	7.2	6.7			9.48	7.5		6.95	6.62			
Electrical Conductivity	µS/cm	1768		2060		2180	3260	3600	3465			2407	3290		1358	1203			
Dissolved Oxygen	mg/l	3.08		2.56								1.42			1.4	1.72			
Temperature	℃	10.1		10		8	7	7	9			10.53	8		8.31	7.66			
Comment												Equipment Failure							Destroyed

Ness Farm Landfill
Field Monitoring Sheet

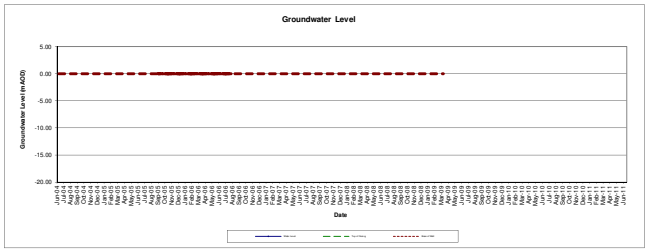
Sampling Location	**N44**																								
Type Of Sample Required	Groundwater	01/02/10	03/04/12	02/05/12	08/06/12	10/07/12	02/08/12	05/09/12	04/10/12	08/11/12	10/12/12	14/01/13	05/02/13	27/03/13	16/04/13	01/05/13	05/06/13	03/07/13	05/08/13	03/09/13	01/10/13	04/11/13	04/12/13	07/01/14	03/02/14
Determinand	Units																								
Water Level																									
Water level to top of casing	m		3.53	3.20	3.51	2.99	3.18	3.06	3.19	3.20	2.88	2.91	2.92	3.32	3.41	3.47	3.47	3.59	3.58	3.57	3.67	3.16	3.43	2.88	2.35
Borehole depth to top of casing	m		7.42	7.44	7.41	7.42	7.42	7.43	7.44	7.39	7.44	7.42	7.42	7.42	7.43	7.44	7.4	7.39	7.42	7.41	7.4	7.4	7.42	7.43	7.4
Top of casing relative to Ordnance Datum Level	m		34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78
Water level relative to Ordnance Datum	m		31.25	31.58	31.27	31.79	31.60	31.72	31.59	31.58	31.90	31.87	31.86	31.46	31.37	31.31	31.31	31.19	31.20	31.21	31.11	31.62	31.35	31.90	32.43
Calculated purge volume	litres																								
Base of Well to Ordnance Datum	m		26.78	26.78	27.37	27.36	27.36	27.35	27.34	27.39	27.34	27.36	27.36	27.36	27.35	27.34	27.38	27.39	27.36	27.37	27.38	27.38	27.36	27.35	27.38
Gas Concentrations																									
Date monitored	-		04/03/2012	02/05/12	08/06/12	10/07/12	02/08/12	05/09/12	04/10/12	08/11/12	10/12/12	14/01/13	05/02/13	27/03/13	16/04/13	01/05/13	05/06/13	03/07/13	05/08/13	03/09/13	01/10/13	04/11/13	04/12/13	07/01/14	03/02/14
Time of measurement	-		10:04	10:03	11:08	12:55	11:52	15:52	12:42	15:50	13:45	14:12	12:50	16:00	10:01	12:28	15:05	14:06	13:44	14:59	12:22	14:08	12:40	14:52	15:19
Methane	% vol		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol		4.9	2.3	6.9	5.4	<0.1	7.0	8.2	1.4	8.7	4.0	3.5	6.7	4.6	4.3	4.3	6.4	0.2	6.3	8.6	7.3	6.9	2.4	1.5
Oxygen	% vol		15.6	18.5	12.2	14.6	20.6	13.7	9.7	18.8	8.4	16.4	17.4	12.7	15.6	14.7	15.9	13.8	20.5	14.4	12.7	14.6	14.4	19.7	20.6
Atmospheric Pressure	mbar		1022	1027	991	1007	1001	1022	1000	1007	1025	1007	977	1020	989	1014	1020	1001	1005	1018	1012	989	1017	984	997
Gas Pressure	mbar		0.02	-0.02	-0.08	<0.01	-0.09	<0.01	0.30	0.17	0.07	-0.02	-0.72	0.07	0.01	-0.05	-0.21	-0.12	0.01	0.26	0.13	0.25	0.14	-0.02	-0.04
Gas Flow Rate	l/hr		<0.1	<0.1	-0.2	<0.1	<0.1	0.1	<0.1	0.2	0.1	-0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.3	<0.1	0.2
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment		Destroyed																							

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N44**													
Type Of Sample Required	Groundwater	05/03/14	01/04/14	07/05/14	09/06/14	01/07/14	05/08/14	02/09/14	08/10/14	03/11/14	02/12/14	02/06/15	11/12/15	28/06/16
Determinand	Units													
Water Level														
Water level to top of casing	m	3.18	3.52	3.75	2.75	3.83	3.88	3.77	3.03	3.42	3.14	3.69	3.28	3.31
Borehole depth to top of casing	m	7.42	7.43	7.43	7.42	7.42	7.43	7.43	7.42	7.4	7.44	7.42	7.69	7.67
Top of casing relative to Ordnance Datum Level	m	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78	34.78
Water level relative to Ordnance Datum	m	31.60	31.26	31.03	32.03	30.95	30.90	31.01	31.75	31.36	31.64	31.09	31.50	31.47
Calculated purge volume	litres													
Base of Well to Ordnance Datum	m	27.36	27.35	27.35	27.36	27.36	27.35	27.35	27.36	27.38	27.34	27.36	27.09	27.11
Gas Concentrations														
Date monitored	-	05/03/14	01/04/14	07/05/14	09/06/14	01/07/14	05/08/14	02/09/14	08/10/14	03/11/14	02/12/14	02/06/15	11/12/15	28/06/16
Time of measurement	-	12:58	13:39	13:06	11:02	14:13	11:44	12:48	10:36	14:13	13:33	12:00	10:53	14:29
Methane	% vol	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	2	2.3	4.1	5.1	5.6	6.4	6.1	7.3	3.3	5.9	4.3	4.8	5.3
Oxygen	% vol	19.1	16.4	14.6	12.1	11.4	12.9	14.3	10.4	17.4	16.5	15.8	17.2	14.3
Atmospheric Pressure	mbar	1009	1009	993	1015	1018	1013	1019	990	982	1018	982	1003	1007
Gas Pressure	mbar	<0.01	-0.09	-0.38	-0.29	0.17	-0.08	-0.2	0.06	0.17	<0.01	-0.02	-0.04	<0.01
Gas Flow Rate	l/hr	<0.1	0.2	0.3	<0.1	0.1	<0.1	<0.1	0.1	-0.1	0.2	<0.1	<0.1	<0.1
Insitu Liquid Determinations														
pH	pH units													
Electrical Conductivity	µS/cm													
Dissolved Oxygen	mg/l													
Temperature	℃													13.8
Comment														

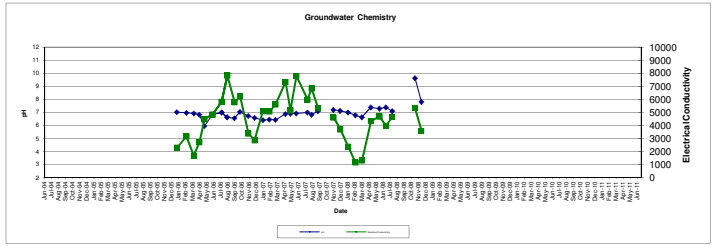
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N45																		
Type Of Sample Required	Leachate	23/06/04	05/08/04	26/08/04	29/09/04	05/11/04	18/11/04	16/12/04	27/01/05	10/03/05	22/04/05	18/05/05	08/06/06	18/07/06	11/08/06	14/09/05	01/11/05	18/11/05	15/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m										4.40	5.20	0.76	0.77	0.75				
Borehole depth to top of casing	m										8.55	8.55	2.30	2.32	2.32				
Top of casing relative to Ordnance Datum Level	m																		
Water level relative to Ordnance Datum	m																		
Calculated purge volume	litres																		
Base of Well to Ordnance Datum	m	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP
Gas Concentrations																			
Date monitored	-	23/06/04	05/08/04	26/08/04	29/09/2004	05/11/2004	18/11/2004	16/12/2004	27/01/2005	10/03/2005	22/04/2005	18/05/2005	08/06/2006	18/07/2006	11/08/2006	14/09/2005	01/11/2005	18/11/2005	15/12/2005
Time of measurement	-		10:09					12:10	11:40				13:30	15:07	14:20				
Methane	% vol																		
Carbon Dioxide	% vol																		
Oxygen	% vol																		
Atmospheric Pressure	mbar																		
Gas Pressure	mbar																		
Gas Flow Rate	l/hr																		
Insitu Liquid Determinations																			
pH	pH units												6.84	7	6.63				
Electrical Conductivity	µS/cm												4830	5800	7840				
Dissolved Oxygen	mg/l												0	0.27	2.79				
Temperature	℃												20.1	16.8	14.4				
Comment		Could not access	Could not access	Could not access	Could not acess. No Tritium	Could not acess	Could not acess	Could not access	Could Not Access	Could not access			Purged Liquid was Clear	Purged Liquid was Clear	Purged Liquid was Clear				



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N45																							
Type Of Sample Required	Leachate	06/01/06	16/02/06	20/03/06	13/04/06	05/05/06	08/06/06	18/07/06	11/08/06	12/09/06	05/10/06	10/11/06	07/12/06	12/01/07	09/02/07	08/03/07	19/04/07	11/05/07	05/06/07	24/07/07	10/08/07	07/09/07	16/10/07	13/11/07
Determinand	Units																							
Water Level																								
Water level to top of casing	m				0.76	0.74	0.76	0.77		0.75	0.75	0.76	0.86	0.86	0.86	0.74	0.74	0.74	0.75	0.74	0.76	0.76		0.77
Borehole depth to top of casing	m				2.30	2.30	2.30	2.32		2.30	2.30	2.30	2.02	2.02	2.30	2.30	2.30	2.30	2.30	2.28	2.28	2.28		2.27
Top of casing relative to Ordnance Datum Level	m																							
Water level relative to Ordnance Datum	m																							
Calculated purge volume	litres																							
Base of Well to Ordnance Datum	m	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP
Gas Concentrations																								
Date monitored	-	06/01/2006	16/02/2006	20/03/2006	13/04/2006	05/05/2006	08/06/2006	18/07/2006	11/08/2006	12/09/2006	05/10/2006	10/11/2006	07/12/2006	12/01/2007	09/02/2007	08/03/2007	19/04/2007	11/05/2007	05/06/2007	24/07/2007	10/08/2007	07/09/2007	16/10/2007	13/11/2007
Time of measurement	-		11:15	14:05	11:38	11:30	13:30	15:07	14:20	11:42	11:00	12:50	14:45	14:30	13:55	13:15	16:30	11:00	16:00	11:50	10:26	10:30		11:00
Methane	% vol																							
Carbon Dioxide	% vol																							
Oxygen	% vol																							
Atmospheric Pressure	mbar																							
Gas Pressure	mbar																							
Gas Flow Rate	l/hr																							
Insitu Liquid Determinations																								
pH	pH units	7.03	6.97	6.92	6.83	5.95	6.84	7	6.63	6.56	7.05	6.73	6.59	6.41	6.46	6.43	6.89	6.91	6.92	6.99	6.84	7.09		7.21
Electrical Conductivity	µS/cm	2292	3160	1699	2720	4490	4830	5800	7840	5780	6230	3390	2874	5100	5080	5620	7330	5150	7790	5980	6840	5310		4620
Dissolved Oxygen	mg/l	4.37	1.95	3.22	2.76	1.02	0	0.27	2.79	2.6	1.5	1.84	0.82	0.85	0.57	1.74	0	0.26	1.26	0.79	0.78	1.92		2.67
Temperature	℃	6	9.1	5.8	14.2	12.5	20.1	16.8	14.4	13.5	13.2	9.1	8.8	7.5	6.1	9	10.7	11.1	12.6	13.2	14.4	13.9		8.7
Comment			Purged Liquid was Clear	Purged Liquid was Clear	Purged Liquid was Clear	Purged Liquid was Clear	Purged Liquid was Clear	Purged Liquid was Clear	Purged Liquid was Clear	Purged Liquid was Clear	Purged Liquid was Clear	Purged Liquid was Clear												

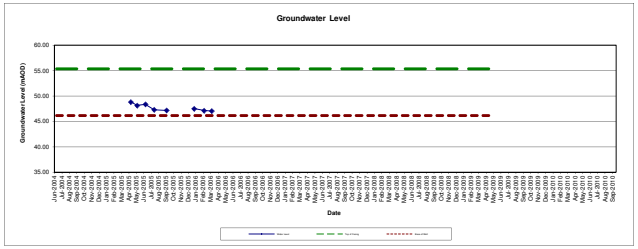


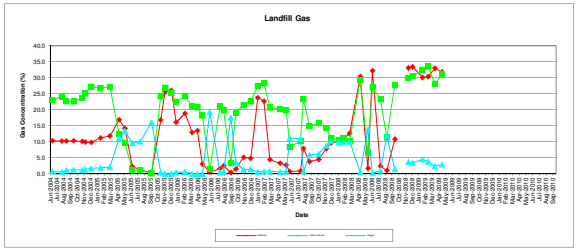
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N45																	
Type Of Sample Required	Leachate	12/12/07	15/01/08	15/02/08	14/03/08	22/04/08	29/05/08	26/06/08	23/07/08	#N/A	15/09/08	29/10/08	26/11/08	18/12/08	27/01/09	26/02/09	25/03/09	
Determinand	Units																	
Water Level																		
Water level to top of casing	m	0.76	0.74	0.74	0.78	0.74	0.74	0.76	0.76	0.00	0.76	0.78	0.80	0.80	0.76	0.73	0.73	
Borehole depth to top of casing	m	2.27	2.27	2.27	2.27	2.27	2.27	2.27	2.27	2.27	2.27	2.27	2.27	2.27	2.27	2.27	2.27	
Top of casing relative to Ordnance Datum Level	m																	
Water level relative to Ordnance Datum	m																	
Calculated purge volume	litres																	
Base of Well to Ordnance Datum	m	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	
Gas Concentrations																		
Date monitored	-	12/12/2007	15/01/2008	15/02/2008	14/03/2008	22/04/2008	29/05/2008	26/06/2008	23/07/2008		15/09/2008	29/10/2008	26/11/2008	18/12/2008	27/01/2009	26/02/2009	25/03/2009	Well not monitored
Time of measurement	-	11:55	12:30	10:25	10:20													
Methane	% vol																	
Carbon Dioxide	% vol																	
Oxygen	% vol																	
Atmospheric Pressure	mbar																	
Gas Pressure	mbar																	
Gas Flow Rate	l/hr																	
Insitu Liquid Determinations																		
pH	pH units	7.13	6.99	6.77	6.63	7.4	7.3	7.4	7.1			9.63	7.8					
Electrical Conductivity	µS/cm	3700	2364	1168	1324	4334	4690	3970	4650			5353	3590					
Dissolved Oxygen	mg/l	3.01	3.57	2.16	2.59							0.39						
Temperature	℃	7.6	7.3	8.2	8.5	9	11	10	12			8.91	7					
Comment										No result in August?		Equipment Failure						

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N46																	
Type Of Sample Required	None	23/06/04	04/08/04	25/08/04	27/09/04	05/11/04	18/11/04	16/12/04	27/01/05	11/03/05	22/04/05	18/05/05	21/06/05	27/07/05	16/09/05	28/10/05	17/11/05	15/12/05
Determinand	Units																	
Water Level																		
Water level to top of casing	m	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	6.50	7.20	7.00	8.06	8.16	Dry	Dry	Dry
Borehole depth to top of casing	m	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19
Top of casing relative to Ordnance Datum Level	m	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34
Water level relative to Ordnance Datum	m										48.84	48.14	48.34	47.28	47.18			
Calculated purge volume	litres																	
Base of Well to Ordnance Datum	m	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15
Gas Concentrations																		
Date monitored	-	23/06/04	04/08/04	25/08/04	27/09/2004	05/11/2004	18/11/2004	16/12/2004	27/01/2005	11/03/2005	22/04/2005	18/05/2005	21/06/2005	27/07/2005	16/09/2005	28/10/2005	17/11/2005	15/12/2005
Time of measurement	-		11:35	1637hrs	12:50	12:30	12:50	11:50	11:50	12:10	12.50pm	9.45	1.00	15:21	10:40	12:20	12:32	16:25
Methane	% vol	10.3	10.2	10.2	10.3	10.1	9.9	9.8	11.2	11.8	16.9	14.2	2.3	1.2	0.4	16.8	25.7	26.1
Carbon Dioxide	% vol	23.0	24.1	22.7	22.6	23.7	25.1	27.2	26.8	27.1	12.37	9.6	1.1	1.1	0.1	24.2	26.9	25.3
Oxygen	% vol	0.8	0.5	1.1	1.3	1.2	1.4	1.7	1.9	2.1	11.1	13.4	9.6	10.1	16.1	0.4	<0.1	<0.1
Atmospheric Pressure	mbar	991	1008	997	1008	1009	1010	993	1027	1020	1028	1028	1010	1019	1005	989	1011	1005
Gas Pressure	mbar	0.0		2.4	2.5	2.4	2.4	-	-	-	1.1	1.1	0.1	0.1	1.2			
Gas Flow Rate	l/hr	0.4		2.6	2.6	2.7	2.7	-	-	-	0.1	0.1	<0.1	0.1	0.1			
Insitu Liquid Determinations																		
pH	pH units																	
Electrical Conductivity	µS/cm																	
Dissolved Oxygen	mg/l																	
Temperature	ºC																	
Comment		Venting, no gas tap	No gas tap						Open Valve	Open Valve. Dry		open valve		open valve			No Valve	No Valve





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N46**																							
Type Of Sample Required	None	06/01/06	16/02/06	20/03/06	13/04/06	05/05/06	08/06/06	24/07/06	10/08/06	12/09/06	04/10/06	08/11/06	11/12/06	12/01/07	09/02/07	08/03/07	23/04/07	21/05/07	06/06/07	25/07/07	08/08/07	04/09/07	16/10/07	20/11/07	12/12/07
Determinand	Units																							
Water Level																								
Water level to top of casing	m	7.83	8.20	8.28	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
Borehole depth to top of casing	m	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19
Top of casing relative to Ordnance Datum Level	m	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34
Water level relative to Ordnance Datum	m	47.51	47.14	47.06																				
Calculated purge volume	litres																							
Base of Well to Ordnance Datum	m	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15
Gas Concentrations																								
Date monitored	-	06/01/2006	16/02/2006	20/03/2006	13/04/2006	05/05/2006	08/06/2006	24/07/2006	10/08/2006	12/09/2006	04/10/2006	08/11/2006	11/12/2006	12/01/2007	09/02/2007	08/03/2007	23/04/2007	21/05/2007	06/06/2007	25/07/2007	08/08/2007	04/09/2007	16/10/2007	20/11/2007	12/12/2007
Time of measurement	-	15:33	12:13	15:36	12:36	11:12	14:30	14:14	14:26	10:40	13:10	13:24	15:20	14:51	14:30	10:40	12:15	15:15	14:45	12:45	12:45	14:05	14:45	13:30	13:00
Methane	% vol	16.1	18.90	12.90	13.5	3.0	0.5	1.6	2.5	0.4	1.5	5.1	4.8	23.8	22.7	4.4	3.3	2.7	0.7	0.9	7.9	3.8	4.5	7.9	9.7
Carbon Dioxide	% vol	22.5	24.30	21.10	20.8	18.2	1.5	21.0	19.8	3.3	19.0	21.5	22.6	27.4	28.3	20.7	20.2	19.8	8.4	10.2	23.3	14.9	15.8	14.3	11.2
Oxygen	% vol	0.5	0.60	0.00	0.0	0.0	19.3	0.4	0.7	17.6	3.6	1.3	1.4	0.6	0.8	0.8	0.6	0.8	11.2	10.9	0.8	5.9	6.2	8.8	10.2
Atmospheric Pressure	mbar	1017	967	1015	985	1009	1013	1007	1005	1011	1001	1002	990	981	1002	1006	1001	1007	1016	994	1012	1014	995	1010	1022
Gas Pressure	mbar												<0.1	2.2	1.9	2	2.5	0.9	2.2	1.2	<0.1	<0.1	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr												<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment		No Valve	No Cap	No Cap/ Casing not marked	No Cap/ Casing not marked	No Cap/ Casing not marked	No Cap/ Casing not marked	No Cap/ Casing not marked	No Cap/ Casing not marked	No Cap/ Casing not marked	No Cap/ Casing not marked	No Cap/ Casing not marked													

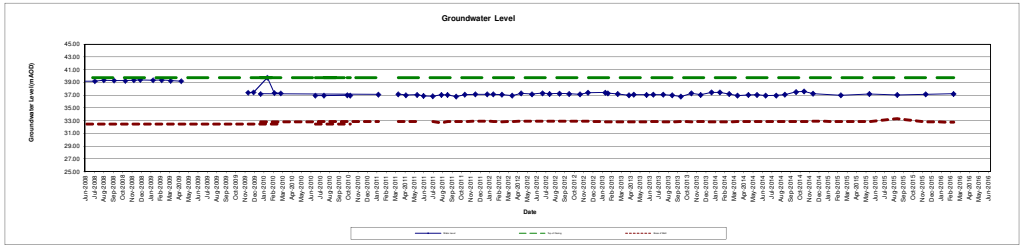
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N46**																	
Type Of Sample Required	None	16/01/08	06/02/08	04/03/08	22/04/08	27/05/08	16/06/08	23/07/08	21/08/08	26/09/08	29/10/08	26/11/08	16/12/08	30/01/09	25/02/09	27/03/09	28/04/09	
Determinand	Units																	
Water Level																		
Water level to top of casing	m	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	
Borehole depth to top of casing	m	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	
Top of casing relative to Ordnance Datum Level	m	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	55.34	
Water level relative to Ordnance Datum	m																	
Calculated purge volume	litres																	
Base of Well to Ordnance Datum	m	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	46.15	
Gas Concentrations																		
Date monitored	-	16/01/08	06/02/08	04/03/08	22/04/08	27/05/08	16/06/08	23/07/08	21/08/08	26/09/08	29/10/08	26/11/08	16/12/08	30/01/09	25/02/09	27/03/09	28/04/09	
Time of measurement	-	16:00	13:35	15:15				00:00	11:06	09:21		07:40	13:12	08:38	06:43	15:04	15:10	
Methane	% vol	10.2	10.8	12.6	30.4	1.7	32.2	2.4	1.0	10.8		33.1	33.4	30.1	30.4	33.0	31.8	
Carbon Dioxide	% vol	10.5	11.2	10.1	29.3	6.5	27.0	23.3	11.3	27.8		30.0	30.5	32.5	33.6	28.1	31.1	
Oxygen	% vol	9.8	9.9	10.2	0.5	13.9	0.2	1.0	11.8	1.5		3.7	3.5	4.5	3.8	2.4	2.9	
Atmospheric Pressure	mbar	988	1009	1021	1014	1014	999	1008	995	1016		1014	999	1002	1003	975	1008	
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	-0.1	<0.1	<0.1		0.04	0.04	0.08	0.12	0.02	0.07	
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1		<0.1	<0.1	-0.3	<0.1	<0.1		<0.1	0.10	<0.1	<0.1	<0.1	<0.1	
Insitu Liquid Determinations																		
pH	pH units																	
Electrical Conductivity	µS/cm																	
Dissolved Oxygen	mg/l																	
Temperature	ºC																	
Comment											Equipment Failure							

Well removed as part of Phase 1 Restoration Works

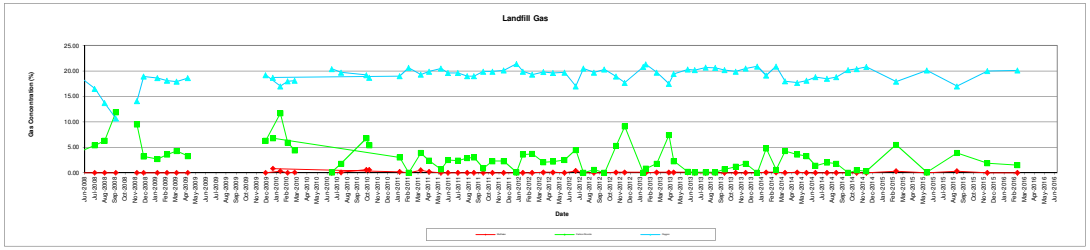
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N47																		
Type Of Sample Required	Leachate	23/06/04	05/08/04	26/08/04	27/04/04	05/11/04	18/11/04	16/12/04	27/01/05	11/03/05	22/04/05	18/05/05	21/06/05	27/07/05	16/08/05	16/09/05	01/11/05	18/11/05	15/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	0.68									2.90	3.24	2.91	3.46					
Borehole depth to top of casing	m	7.30									7.30	7.30	7.30	7.30					
Top of casing relative to Ordnance Datum Level	m	39.77									39.77	39.77	39.77	39.77					
Water level relative to Ordnance Datum	m	39.09									36.87	36.53	36.86	36.31					
Calculated purge volume	litres	158.88																	
Base of Well to Ordnance Datum	m	32.47									32.47	32.47	32.47	32.47					
Gas Concentrations																			
Date monitored	-	23/06/2004	05/08/2004	26/08/2004	27/04/2004	05/11/2004	18/11/2004	16/12/2004	27/01/2005	11/03/2005	22/04/2005	18/05/2005	21/06/2005	27/07/2005	16/08/2005	16/09/2005	01/11/2005	18/11/2005	15/12/2005
Time of measurement	-										1.41pm	10.50	2.30	16:07					
Methane	% vol	<0.1									11.20	8.60	0.10	8.60					
Carbon Dioxide	% vol	<0.1									10.60	4.90	1.60	4.90					
Oxygen	% vol	20.60									7.80	6.90	14.10	6.90					
Atmospheric Pressure	mbar	996.00									1030.00	1028.00	1010.00	1028.00					
Gas Pressure	mbar	0.00									1.60	1.20	1.10	1.20					
Gas Flow Rate	l/hr	<0.1									1.10	1.10	2.30	1.10					
Insitu Liquid Determinations																			
pH	pH units	7.11									6.29	7.01	9.2	7.01					
Electrical Conductivity	µS/cm	1330									5360	5300	5310	5300					
Dissolved Oxygen	mg/l	5									20.1	7.5	12.6	7.5					
Temperature	ºC	10.2									10	10	10	10					
Comment			Could not locate	Could not locate	Could not locate	Could not Locate	Could not Locate	Could not Locate	Cannot Locate	Cannot Locate		new watera		new watera			Could not locate	Could not locate	Flooded



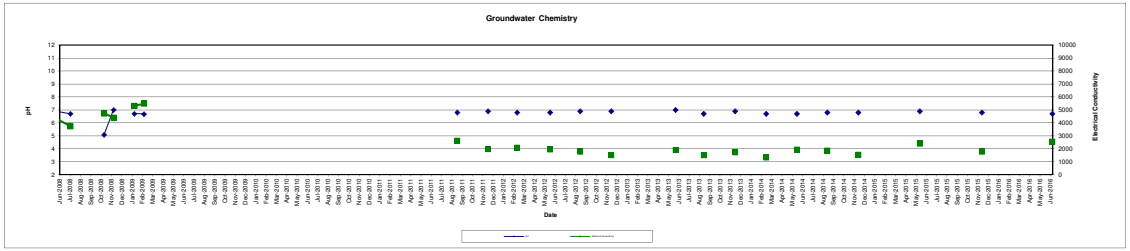
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N47																							
Type Of Sample Required	Leachate	06/01/06	16/02/06	20/03/06	13/04/06	05/05/06	08/06/06	18/07/06	10/08/06	12/09/06	04/10/06	08/11/06	07/12/06	12/01/07	09/02/07	08/03/07	19/04/07	21/05/07	05/06/07	24/07/07	10/08/07	07/09/07	16/10/07	13/11/07
Determinand	Units																							
Water Level																								
Water level to top of casing	m			0.56	0.61	0.65	0.60	0.71	0.72	0.68		0.50	0.45	0.48	0.48	0.27	0.42	0.40	0.47	0.28	0.43	0.64	0.54	0.48
Borehole depth to top of casing	m			7.30	7.30	7.30	7.30	7.30	7.30	7.30		7.30	7.30	7.30	7.30	7.30	7.30	7.30	7.30	7.30	7.30	7.30	7.30	7.30
Top of casing relative to Ordnance Datum Level	m			39.77	39.77	39.77	39.77	39.77	39.77	39.77		39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77
Water level relative to Ordnance Datum	m			39.21	39.16	39.12	39.17	39.06	39.05	39.09		39.27	39.32	39.29	39.29	39.50	39.35	39.37	39.30	39.49	39.34	39.13	39.23	39.29
Calculated purge volume	litres						40.20	52.72	52	52		50	56.00	54.56	53	56	54	54	54	56	53	52	52	52
Base of Well to Ordnance Datum	m			32.47	32.47	32.47	32.47	32.47	32.47	32.47		32.47	32.47	32.47	32.47	32.47	32.47	32.47	32.47	32.47	32.47	32.47	32.47	32.47
Gas Concentrations																								
Date monitored	-	06/01/2006	16/02/2006	20/03/2006	13/04/2006	05/05/2006	08/06/2006	18/07/2006	10/08/2006	12/09/2006	04/10/2006	08/11/2006	07/12/2006	12/01/2007	09/02/2007	08/03/2007	19/04/2007	21/05/2007	05/06/2007	24/07/2007	10/08/2007	07/09/2007	16/10/2007	13/11/2007
Time of measurement	-			14:33	11:51	10:32	13:55	14:28	13:30	10:27	12:30	12:51	15:30	14:40	15:10	12:00	16:00	14:45	15:10	12:30	12:46	15:15	13:15	12:30
Methane	% vol			0.00	0.00	0.00	0.00	0.00	0.0	0.1		0.2	0	0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol			0.50	1.30	0.30	3.40	0.60	0.4	9.9		5.2	6	1.6	1.5	14.3	8.1	8.9	3.4	13.2	5.8	3.7	11.3	6.2
Oxygen	% vol			18.00	19.10	20.30	18.40	20.40	20.5	13.3		11.9	17.1	20.2	20.1	11.5	13.9	14.2	17.6	13.8	16.1	18.4	13.6	17.7
Atmospheric Pressure	mbar			1016.00	986.00	1012.00	1016.00	1014.00	1007	1013		1004	961	984	1003	1007	1014	1009	1022	998	1009	1020	997	1004
Gas Pressure	mbar			<0.1	<0.1	1.4	-2.3	3.9	2.2	1.9		-12.1	6.2	2.6	3.1	10.3	4.5	2.8	-2.5	22	5.1	5.3	6.2	3.7
Gas Flow Rate	l/hr			<0.1	<0.1	1.1	3.8	<0.1	<0.1	-2.7		-7.7	5	<0.1	<0.1	7	<0.1	<0.1	-2.8	6.6	-6.4	<0.1	-5.9	3.8
Insitu Liquid Determinations																								
pH	pH units			6.58	6.21	6.09	6.77	6.86	6.74	6.45		6.45	6.42	6.32	6.35	6.24	6.63	6.57	6.5	6.47	6.51	6.62	6.64	6.65
Electrical Conductivity	µS/cm			2856	2490	4190	4280	3680	3291	5880		6660	6140	5890	5634	5620	4390	4410	5920	6050	6080	3850	3240	3600
Dissolved Oxygen	mg/l			2.3	1.97	4.65	1.43	26.97	10.05	3.36		0	3.18	11.06	10.4	1.74	0.78	0.92	3.73	1.21	1.29	5.61	4.46	5.15
Temperature	℃			7.6	15.8	12.4	12.8	12.1	12.3	11.9		10.8	10.4	10	9.5	9	9.1	9.4	10.4	12.5	13.4	12.3	11.5	10.9
Comment		Flooded	Hazardous (Bulls In Field)						Cover Flat To Ground	Casing flat to ground in field	Inaccessible - Bull in field				Flip Cover Flat To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N47																						
Type Of Sample Required	Leachate	12/12/07	17/01/08	06/02/08	11/03/08	22/04/08	27/05/08	11/06/08	22/07/08	20/08/08	23/09/08	29/10/08	26/11/08	16/12/08	27/01/09	24/02/09	25/03/09	28/04/09	29/05/09	24/06/09	31/07/09	30/09/09	30/11/09	18/12/09
Determinand	Units																							
Water Level																								
Water level to top of casing	m	0.35	0.21	0.28	0.28	0.25	0.68	0.58	0.57	0.42	0.46	0.49	0.40	0.36	0.41	0.39	0.49	0.57					2.37	2.32
Borehole depth to top of casing	m	7.30	7.30	7.30	7.30	7.30	7.30	7.30	7.30	7.30	7.30	7.30	7.30	7.30	7.30	7.30	7.30	7.30					7.30	7.30
Top of casing relative to Ordnance Datum Level	m	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77
Water level relative to Ordnance Datum	m	39.42	39.56	39.49	39.49	39.52	39.09	39.19	39.20	39.35	39.31	39.28	39.37	39.41	39.36	39.38	39.28	39.20					37.40	37.45
Calculated purge volume	litres	52	56	56	56	56	53	54	54	55	55	54	55	56	55	55	54	54						40
Base of Well to Ordnance Datum	m	32.47	32.47	32.47	32.47	32.47	32.47	32.47	32.47	32.47	32.47	32.47	32.47	32.47	32.47	32.47	32.47	32.47	32.47	32.47	32.47	32.47	32.47	32.47
Gas Concentrations																								
Date monitored	-	12/12/2007	17/01/2008	06/02/2008	11/03/2008	22/04/2008	27/05/2008	11/06/2008	22/07/2008	20/08/2008	23/09/2008	29/10/2008	26/11/2008	16/12/2008	27/01/2009	24/02/2009	25/03/2009	28/04/2009	29/05/2009	24/06/2009	31/07/2009	30/09/2009		18/12/2009
Time of measurement	-	12:50	13:30	14:35	12:15				00:00	15:41	12:57		09:50	02:09	06:00	05:45	15:02	15:00						13:18
Methane	% vol	0.0	0.0	0.0	0.7	0	0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0						0.0
Carbon Dioxide	% vol	6.0	5.6	6.2	8.5	7.7	4.2	4.3	5.4	6.3	11.9		9.5	3.2	2.7	3.6	4.3	3.3						6.3
Oxygen	% vol	14.9	15.8	15.5	4.0	14.6	17.6	18.6	16.5	13.7	10.7		14.1	18.9	18.6	18.1	17.9	18.6						19.2
Atmospheric Pressure	mbar	1024	982	1010	967	1015	1017	1010	1004	992	1019		1016	1001	1010	1025	995	1010						1019
Gas Pressure	mbar	1.1	3	1.7	-3.2	-1.6	<0.1	-0.9	-1.7	1.9	-2.6		3.93	2.32	-2.69	-2.84	1.30	0.01						9.34
Gas Flow Rate	l/hr	<0.1	0.4	1.2	-3.5		<0.1	-2.4	-0.3	-3.7	-6.2		-1.60	-0.70	-2.40	-1.90	-3.40	<0.1						5.30
Insitu Liquid Determinations		14:00																						
pH	pH units	6.57	6.72	6.45	6.37	7.2	7.3	6.9	6.7			5.08	7		6.71	6.68								
Electrical Conductivity	µS/cm	4800	4110	4420	2865	4240	4450	4320	3731			4735	4410		5312	5481								
Dissolved Oxygen	mg/l	3.45	3.95	3.62	1.56							0.16			1.62	0								
Temperature	ºC	10.1	9.8	9.9	9.7	7.5	11	8	9			11.26	8		7.94	8.12								
Comment		Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground							Equipment Failure							Destroyed	Destroyed	Destroyed	Destroyed	Gas analysis lost	



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N47**										(Sept mon)			(Dec Mon)												
Type Of Sample Required	Leachate	01/02/10	23/02/10	16/03/10	27/04/10	05/05/10	21/06/10	06/07/10	03/08/10	18/10/10	27/10/10	15/11/10	10/01/10	26/01/11	22/02/11	31/03/11	25/04/11	31/05/11	21/06/11	21/07/11	18/08/11	07/09/11	05/10/11	02/11/11	06/12/11	13/01/12
Determinand	Units																									
Water Level																										
Water level to top of casing	m	0.00	2.41	2.48				2.83	2.82	2.78	2.82		2.56	2.66		2.61	2.76	2.70	2.87	2.92	2.71	2.73	3.00	2.67	2.63	2.62
Borehole depth to top of casing	m	7.30	6.98	6.95				6.96	6.94	7.00	6.92		6.94	6.91		6.90	6.90	6.90		6.92	7.11	6.92	6.90	6.93	6.87	6.85
Top of casing relative to Ordnance Datum Level	m	39.77	39.77	39.77				39.77	39.77	39.77	39.77		39.77	39.77		39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77
Water level relative to Ordnance Datum	m	39.77	37.36	37.29				36.94	36.95	36.99	36.95		37.21	37.11		37.16	37.01	37.07	36.90	36.85	37.06	37.04	36.77	37.10	37.14	37.15
Calculated purge volume	litres	58																								
Base of Well to Ordnance Datum	m	32.47	32.47	32.47				32.47	32.47	32.47	32.47		32.83	32.86		32.87	32.87	32.87		32.85	32.66	32.85	32.87	32.84	32.90	32.92
Gas Concentrations																										
Date monitored	-	01/02/2010	23/02/2010	16/03/2010				06/07/2010	03/08/2010	18/10/2010	27/10/2010		10/01/2011	26/01/2011	22/02/2011	31/03/11	25/04/11	31/05/11	21/06/11	21/07/11	18/08/11	07/09/11	05/10/11	02/11/11	06/12/12	13/01/12
Time of measurement	-	01:12	17:20	10:25				14:14	11:13	16:55	10:08		11:25	11:00	10:40	11:05	16:22	11:07	12:15	09:10	14:12	15:57	16:55	14:57	14:18	09:21
Methane	% vol	0.3	<0.1	0.1				<0.1	0.1	0.6	0.6		0.8	0.2	<0.1	0.5	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	11.7	5.9	4.4				0.1	1.8	6.8	5.4		6.8	3.0	0.0	3.9	2.4	0.7	2.5	2.4	2.9	3.0	0.9	2.3	2.3	0.1
Oxygen	% vol	17.0	18.0	18.1				20.4	19.7	19.2	18.7		18.7	19.0	20.6	19.3	19.9	20.5	19.6	19.6	19.0	19.0	19.9	19.9	20.1	21.4
Atmospheric Pressure	mbar	1012	994	1017				1012	1003	998	998		999	1016	1011	986	1026	1015	1005	1014	1015	993	990	997	997	1029
Gas Pressure	mbar	12.78	3.92	-10.52				0.37	12.2	6.52	19.83		0.21	-2.97	-0.19	9.6	22.95	0	0.00	-0.02	0.03	-0.06	0.06	-0.12	<0.1	-0.04
Gas Flow Rate	l/hr	6.30	-2.3	-7.1				1.2	9.5	7.6	8.5		+/-0.1	-5.1	+/-0.1	7.4	11.5	5.9	-1.6	18.9	12.5	1.6	12.0	7.7	-1.2	-1.8
Insitu Liquid Determinations																										
pH	pH units																					6.8			6.9	
Electrical Conductivity	µS/cm																					2620			1990	
Dissolved Oxygen	mg/l																					2.6			3.0	
Temperature	ºC									11.6						8.5						11.5			9.7	
Comment					Lock seized, unable to sample.	Lock seized, unable to sample.	Lock seized, unable to sample.					Monitoring not undertaken due to adverse weather														

Ness Farm Landfill
Field Monitoring Sheet

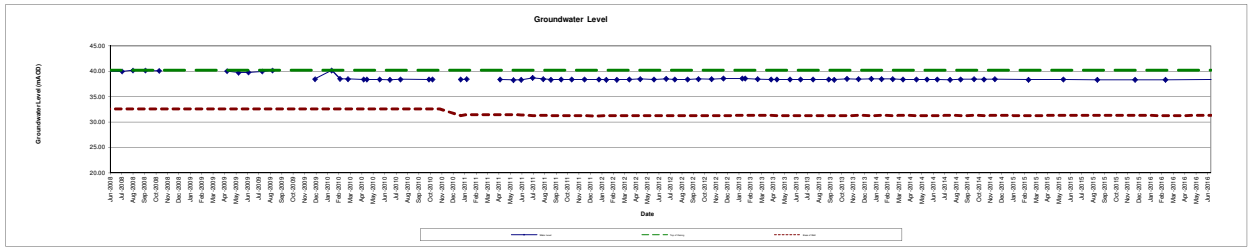
Sampling Location	**N47**																									
Type Of Sample Required	Leachate	02/02/12	01/03/12	03/04/12	02/05/12	06/06/12	10/07/12	02/08/12	03/09/12	04/10/12	08/11/12	04/12/12	29/01/13	06/02/13	11/03/13	16/04/13	01/05/13	12/06/13	03/07/13	05/08/13	03/09/13	01/10/13	04/11/13	04/12/13	07/01/14	03/02/14
Determinand	Units																									
Water Level																										
Water level to top of casing	m	2.63	2.68	2.84	2.47	2.60	2.45	2.56	2.50	2.55	2.64	2.37	2.35	2.45	2.59	2.8	2.67	2.71	2.69	2.68	2.79	3	2.47	2.71	2.32	2.34
Borehole depth to top of casing	m	6.91	6.98	6.90	6.88	6.86	6.87	6.86	6.87	6.87	6.87	6.88	6.95	6.95	6.94	6.94	6.98	6.98	6.93	6.96	6.95	6.93	6.94	6.91	6.98	6.97
Top of casing relative to Ordnance Datum Level	m	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77
Water level relative to Ordnance Datum	m	37.14	37.09	36.93	37.30	37.17	37.32	37.21	37.27	37.22	37.13	37.40	37.42	37.32	37.18	36.97	37.10	37.06	37.08	37.09	36.98	36.77	37.30	37.06	37.45	37.43
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m	32.86	32.79	32.87	32.89	32.91	32.90	32.91	32.90	32.90	32.90	32.89	32.82	32.82	32.83	32.83	32.79	32.79	32.84	32.81	32.82	32.84	32.83	32.86	32.79	32.80
Gas Concentrations																										
Date monitored	-	02/02/12	01/03/12	03/04/12	02/05/12	06/06/12	10/07/12	02/08/12	03/09/12	04/10/12	08/11/12	04/12/12	29/01/13	06/02/13	11/03/13	16/04/13	01/05/13	12/06/13	03/07/13	05/08/13	03/09/13	01/10/13	04/11/13	04/12/13	07/01/14	03/02/14
Time of measurement	-	09:53	10:39	15:15	16:36	15:04	12:35	12:02	15:09	12:50	15:16	12:50	11:31	14:50	15:24	09:35	11:57	10:39	14:15	13:54	13:31	12:31	14:17	10:52	15:01	14:47
Methane	% vol	<0.1	<0.1	0.1	0.1	<0.1	0.4	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
Carbon Dioxide	% vol	3.6	3.7	2.1	2.2	2.5	4.5	<0.1	0.6	<0.1	5.3	9.1	<0.1	0.8	1.8	7.4	2.3	0.2	0.1	0.1	0.1	0.7	1.2	1.8	<0.1	4.8
Oxygen	% vol	19.9	19.3	19.8	19.6	19.7	17.0	20.5	19.7	20.3	18.9	17.7	20.8	21.3	19.7	17.5	19.4	20.3	20.2	20.7	20.6	20.2	19.9	20.5	20.9	19.1
Atmospheric Pressure	mbar	1034	1017	1011	1023	995	1007	1001	1013	1000	1004	1001	987	1011	1019	990	1015	998	996	1004	1017	1012	989	1016	984	997
Gas Pressure	mbar	-0.12	0.02	-0.13	0.07	-0.21	0.07	-0.08	-0.09	0.19	0.24	0.54	-0.19	-0.27	-0.19	-0.19	-0.21	<0.01	<0.01	0.01	-0.12	0.12	0.26	0.19	0.09	-0.12
Gas Flow Rate	l/hr	0.6	4.0	19.2	1.9	-4.4	11.5	-8.6	1.7	-0.1	0.3	12.6	0.2	0.1	-3.7	12.3	4.7	5.4	0.2	0.4	<0.1	0.4	6.7	-2.1	1.1	6.1
Insitu Liquid Determinations																										
pH	pH units		6.8			6.8			6.9			6.9						7.0			6.7			6.9		
Electrical Conductivity	µS/cm		2070			1960			1780			1520						1910			1510			1730		
Dissolved Oxygen	mg/l		2.9			2.6			5.1			2.7						6.3			3.6			7.8		
Temperature	ºC		9.5			9.5			13.0			7.9			7.4			9.6			13.6			9.5		
Comment																										

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N47**																
Type Of Sample Required	Leachate	05/03/14	01/04/14	07/05/14	04/06/14	01/07/14	05/08/14	02/09/14	08/10/14	03/11/14	02/12/14	02/03/15	02/06/15	01/09/15	02/12/15	01/03/16	27/06/16
Determinand	Units																
Water Level																	
Water level to top of casing	m	2.58	2.82	2.72	2.7	2.85	2.81	2.69	2.25	2.16	2.53	2.8	2.58	2.73	2.63	2.55	
Borehole depth to top of casing	m	6.94	6.9	6.93	6.93	6.92	6.93	6.9	6.92	6.92	6.88	6.93	6.9	6.46	6.94	6.99	
Top of casing relative to Ordnance Datum Level	m	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	39.77	
Water level relative to Ordnance Datum	m	37.19	36.95	37.05	37.07	36.92	36.96	37.08	37.52	37.61	37.24	36.97	37.19	37.04	37.14	37.22	
Calculated purge volume	litres																
Base of Well to Ordnance Datum	m	32.83	32.87	32.84	32.84	32.85	32.84	32.87	32.85	32.85	32.89	32.84	32.87	33.31	32.83	32.78	
Gas Concentrations																	
Date monitored	-	05/03/14	01/04/14	07/05/14	04/06/14	01/07/14	05/08/14	02/09/14	08/10/14	03/11/14	02/12/14	02/03/15	02/06/15	01/09/15	02/12/15	01/03/16	27/06/16
Time of measurement	-	11:52	13:47	13:38	10:59	14:27	12:07	11:25	10:44	14:20	13:47	12:27	12:30	13:50	13:50	12:06	11:45
Methane	% vol	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	0.3	<0.1	<0.1	
Carbon Dioxide	% vol	0.6	4.3	3.6	3.3	1.4	2	1.8	<0.1	0.5	0.3	5.5	0.1	3.9	1.9	1.5	
Oxygen	% vol	20.9	18	17.7	18.1	18.8	18.5	18.8	20.2	20.4	20.8	17.9	20.1	17	20	20.1	
Atmospheric Pressure	mbar	1009	1009	994	1002	1017	1012	1020	990	982	1021	990	982	1013	1002	991	
Gas Pressure	mbar	-0.15	9.73	<0.01	-0.15	0.12	-0.18	-0.16	0.09	0.16	0.18	0.12	<0.01	-0.02	0.22	-0.17	
Gas Flow Rate	l/hr	-4.3	3.3	7.7	0.2	12.2	0.8	3.4	0.5	-5.6	-1.5	15	<0.1	14.1	0.3	-0.7	
Insitu Liquid Determinations																	
pH	pH units	6.7			6.7			6.8			6.8		6.9		6.8		6.7
Electrical Conductivity	µS/cm	1330			1940			1850			1530		2390		1780		2550
Dissolved Oxygen	mg/l	3.9			3.7			4.9			2.9		2.76		5.1		1.29
Temperature	ºC	7.9			11.1			12.7			9.7		9.8		9.4		10.8
Comment			OK. Relative pressure rechecked at the time of sampling.						Growth of thistles/nettles becoming a problem for sampling	Thistles/ nettles dying off	Thistles/nettles dying off						Gas and level measurement missed

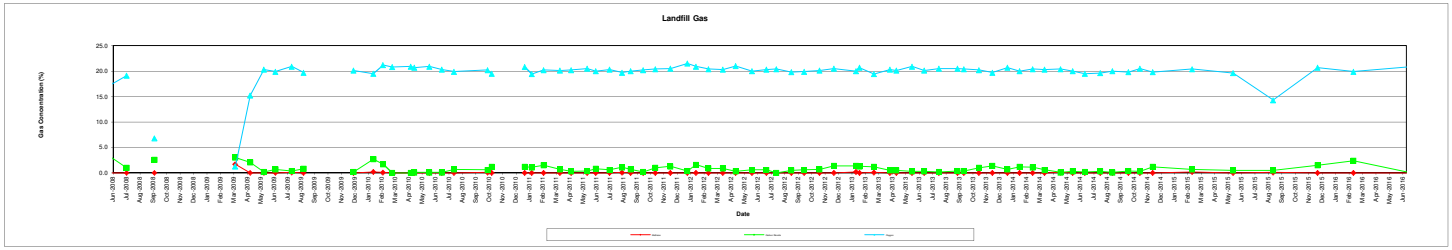
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N48																		
Type Of Sample Required	None	23/06/04	04/08/04	26/08/04	27/09/04	05/11/04	18/11/04	16/12/04	26/01/05	11/03/05	22/04/05	18/05/05	21/06/05	27/07/05	16/08/05	15/09/05	01/11/05	18/11/05	15/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	0.40	Dry								3.80	4.11	4.18	5.91		6.80			
Borehole depth to top of casing	m	7.60	7.60								7.60	7.60	7.60	7.60		7.60			
Top of casing relative to Ordnance Datum Level	m	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18
Water level relative to Ordnance Datum	m	39.78									36.38	36.07	36.00	34.27		33.38			
Calculated purge volume	litres																		
Base of Well to Ordnance Datum	m	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58
Gas Concentrations																			
Date monitored	-	23/06/04	04/08/04	26/08/04	27/09/04	05/11/04	18/11/04	16/12/04	26/01/05	11/03/05	22/04/05	18/05/05	21/06/05	27/07/05	16/08/05	15/09/05	01/11/05	18/11/05	15/12/05
Time of measurement	-		11:55								2.51pm	11.38	5.40	17:21		18:46			
Methane	% vol	<0.1	<0.1								18.6	14.7	14.9	16.9		<0.1			
Carbon Dioxide	% vol	<0.1	<0.1								12.6	10.2	11.2	8.2		<0.1			
Oxygen	% vol	20.9	20.8								11.2	11.1	14.8	19.6		12.9			
Atmospheric Pressure	mbar	996	1014								1030	1021	1010	1029		1005			
Gas Pressure	mbar	0.0									1.1	1.1	1.2	<0.1		0			
Gas Flow Rate	l/hr	<0.1									1.3	0.1	0.1	<0.1		0.1			
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment				Flooded, unable to dip for depth	Flooded. Unable to dip	Could not Locate	Flooded	Flooded	Flooded	Flooded							Could not locate	Could not locate	Could not locate



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N48																							
Type Of Sample Required	None	06/01/06	16/02/06	20/03/06	13/04/06	05/05/06	08/06/06	18/07/06	10/08/06	12/09/06	04/10/06	08/11/06	12/12/06	12/01/07	09/02/07	08/03/07	23/04/07	21/05/07	05/06/07	24/07/07	10/08/07	13/09/07	16/10/07	13/11/07
Determinand	Units																							
Water Level																								
Water level to top of casing	m		0.00	0.00	0.00	0.00	0.00	0.42	0.42	0.47	0.28	0.00	0.00	0.00	0.00	0.04	0.15	0.10	0.10	0.05	0.18	0.32	0.15	0.20
Borehole depth to top of casing	m		7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60
Top of casing relative to Ordnance Datum Level	m	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18
Water level relative to Ordnance Datum	m		40.18	40.18	40.18	40.18	40.18	39.76	39.76	39.71	39.90	40.18	40.18	40.18	40.18	40.14	40.03	40.08	40.08	40.13	40.00	39.86	40.03	39.98
Calculated purge volume	litres																							
Base of Well to Ordnance Datum	m	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58
Gas Concentrations																								
Date monitored	-	06/01/06	16/02/06	20/03/06	13/04/06	05/05/06	08/06/06	18/07/06	10/08/06	12/09/06	04/10/06	08/11/06	12/12/06	12/01/07	09/02/07	08/03/07	23/04/07	21/05/07	05/06/07	24/07/07	10/08/07	13/09/07	16/10/07	13/11/07
Time of measurement	-		11:31	15:27	12:13	10:42	14:00	14:55	14:19	10:21	12:35	12:05	13:05	15:11	14:51	12:20	12:45	13:40	14:45	12:57	13:14	14:25	14:15	12:40
Methane	% vol		0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0	1.9	2.1	0.2	0.3	see	0.0	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol		4.20	0.40	0.8	0.3	1.1	0.2	0.5	0.3	3.1	1.2	1.5	4.6	4.4	0.5	7.3	comments	2.4	1.4	1.4	0.9	3.9	2.7
Oxygen	% vol		14.10	19.50	19.7	20.3	19.4	20.2	19.8	20.6	17.6	14.7	15.8	0.6	0.5	1.5	1.2		18.2	11.5	18.1	19.1	12.2	4.5
Atmospheric Pressure	mbar		970	1017	987	1012	1016	1014	1007	1012	1001	1004	990	983	1003	1007	1002	1009	1023	998	1009	1014	997	1003
Gas Pressure	mbar		<0.1	2.8	1.9	0.1	<0.1	4.1	3.6	2	-0.2	8.2	6.9	-9.5	-7.1	4.3	5.5	-8.4	3.7	4.5	0.4	<0.1	-2.6	11.1
Gas Flow Rate	l/hr		1.6	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	0.2	-0.6	5.1	3.4	-0.5	-0.2	-2.2	-1.5	-5.4	0.2	<0.1	-2.4	<0.1	-7.1	6.9
Insitu Liquid Determinations																								
pH	pH units																							
Electrical Conductivity	µS/cm																							
Dissolved Oxygen	mg/l																							
Temperature	℃																							
Comment		Could not locate	Had Previously Not Been Located/ Flooded up to top of casing	Flooded up to top of casing	Flooded up to top of casing	Flooded up to top of casing	Flooded up to top of casing		Cover Flat To Ground	Casing flat to ground in field	Casing flat to ground in field				Flip Cover Flat To Ground	Cover Flush To Ground	Cover Flush To Ground	Analyser sucking up water. Unable to read gases. Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N48**																								
Type Of Sample Required	None	12/12/07	17/01/08	06/02/08	11/03/08	22/04/08	27/05/08	11/06/08	22/07/08	20/08/08	23/09/08	29/10/08	26/11/08	16/12/08	27/01/09	24/02/09	25/03/09	28/04/09	29/05/09	24/06/09	31/07/09	27/08/09	30/09/09	30/10/09	30/11/09	18/12/09
Determinand	Units																								
Water Level																									
Water level to top of casing	m	0.00	0.00	0.10	0.05	0.04	0.34	0.15	0.21	0.00	0.05	0.12						0.18	0.45	0.40	0.23					1.70
Borehole depth to top of casing	m	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60	7.60						7.60	7.60	7.60	7.60	7.60				7.60
Top of casing relative to Ordnance Datum Level	m	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18
Water level relative to Ordnance Datum	m	40.18	40.18	40.08	40.13	40.14	39.84	40.03	39.97	40.18	40.13	40.06						40.00	39.73	39.78	39.95	40.18				38.48
Calculated purge volume	litres								59.12	60.80	60.40	60						59	57	58	59	61				47
Base of Well to Ordnance Datum	m	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58
Gas Concentrations																									
Date monitored	-	12/12/07	17/01/08	06/02/08	11/03/08	22/04/08	27/05/08	11/06/08	22/07/08	20/08/08	23/09/08	29/10/08	26/11/08	16/12/08	27/01/09	24/02/09	25/03/09	28/04/2009	29/05/2009	24/06/2009	31/07/2009	27/08/2009	30/09/2009			18/12/2009
Time of measurement	-	12:35	14:40	14:55	11:30				00:00	00:00	11:16		08:52	00:00	01:55	04:04	10:19	14:50	14:05	13:44	00:00	10:45				13:08
Methane	% vol			0.0	2.1	0	0	0.0	0.0		0.0						1.7	0.0	0.0	0.0	0.1	0.0				0.0
Carbon Dioxide	% vol	Flooded	Flooded	4.7	2.1	1.3	2	3.4	1.0		2.6						3.0	2.1	0.2	0.7	0.4	0.8				0.2
Oxygen	% vol	Could	Could	14.6	0.4	8.7	16.9	17.1	19.1		6.8						1.3	15.2	20.3	19.9	20.9	19.7				20.1
Atmospheric Pressure	mbar	Not	Not	1010	968	1015	1017	1010	1004		1020						995	1010	1027	1024	1009	1004				1019
Gas Pressure	mbar	Monitor	Monitor	2.2	6.7	1	<0.1	-0.2	<0.1		0.3						-2.18	0.12	-0.57	0.05	0.03	0.36				Damaged
Gas Flow Rate	l/hr			1.3	4.2		<0.1	-0.4	-0.3		-2.6						-6.50	<0.1	-2.30	<0.1		<0.1				Damaged
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	ºC																								
Comment		Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Area Flooded		Equipment Failure	FLOODED	FLOODED	FLOODED	FLOODED	FLOODED					Cap Stuck	Destroyed		No access	

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N48**									(Sept mon)			(Dec Mon)												
Type Of Sample Required	None	01/02/10	23/02/10	16/03/10	27/04/10	05/05/10	08/06/10	06/07/10	03/08/10	18/10/10	27/10/10	15/11/10	10/01/11	26/01/11	22/02/11	31/03/11	25/04/11	31/05/11	20/06/11	21/07/11	18/08/11	07/09/11	05/10/11	02/11/11	06/12/11	13/01/12
Determinand	Units																								
Water Level																									
Water level to top of casing	m	0.00	1.69	1.70	1.81	1.81	1.80	1.88	1.77	1.80	1.76		1.81	1.74			1.82	1.89	1.87	1.47	1.71	1.83	1.82	1.79	1.80	1.81
Borehole depth to top of casing	m	7.60	8.87	8.88	8.89	9.82	8.91	8.88	8.91	8.90	8.80		8.90	8.73			8.73	8.73	8.80	8.90	8.88	8.91	8.90	8.90	8.90	8.95
Top of casing relative to Ordnance Datum Level	m	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18
Water level relative to Ordnance Datum	m	40.18	38.49	38.48	38.37	38.37	38.38	38.30	38.41	38.38	38.42		38.37	38.44			38.36	38.29	38.31	38.71	38.47	38.35	38.36	38.39	38.38	38.37
Calculated purge volume	litres	61																								
Base of Well to Ordnance Datum	m	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	32.58	31.28	31.45	31.45	31.45	31.45	31.45	31.38	31.28	31.30	31.27	31.28	31.28	31.28	31.23
Gas Concentrations																										
Date monitored	-	01/02/2010	23/02/2010	16/03/2010	26/04/2010	05/05/2010	08/06/2010	06/07/2010	03/08/2010	18/10/2010	27/10/2010		10/01/2011	26/01/2011	22/02/2011	31/03/11	25/04/11	31/05/11	20/06/11	21/07/11	18/08/11	07/09/11	05/10/11	02/11/11	06/12/12	13/01/12
Time of measurement	-	13:40	17:30	10:15	16:02	09:40	14:42	14:10	11:04	16:46	10:01		11:15	10:50	10:45	11:00	16:04	11:13	14:52	09:22	14:16	16:05	17:00	15:07	14:29	09:28
Methane	% vol	0.2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	2.7	1.7	<0.1	<0.1	0.1	0.1	0.1	0.7	0.6	1.2		1.2	1.1	1.5	0.7	0.3	0.4	0.8	0.6	1.1	0.7	0.2	1.0	1.3	0.4
Oxygen	% vol	19.5	21.2	20.8	20.9	20.7	20.9	20.3	19.9	20.2	19.5		20.8	19.4	20.2	20.1	20.2	20.5	20.0	20.3	19.7	20.0	20.2	20.4	20.5	21.5
Atmospheric Pressure	mbar	1012	994	1017	1012	1013	1001	1012	1003	998	998		999	1016	1011	986	1026	1015	1005	1014	1015	993	990	997	997	1029
Gas Pressure	mbar	Damaged	0.04	+/-0.01	+/-0.01	-0.04	+/-0.01	+/-0.01	0.02	+/-0.01	0.01		-0.04	0.07	-0.28	-0.01	0	0	0.00	-0.10	0.02	-0.05	0.04	0.04	<0.1	<0.01
Gas Flow Rate	l/hr	Damaged	0.0	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1		+/-0.1	+/-0.1	0.4	0.0	0.1	<0.1	<0.1	-0.1	<0.1	<0.1	0.1	-0.1	-0.1	0.1
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	℃																									
Comment					Cap damaged and unable to put back on, readings taken venting.	Cap damaged and unable to put back on, readings taken venting.	Bung/ tap damaged. Reading taken venting.					Monitoring not undertaken due to adverse weather														

Ness Farm Landfill
Field Monitoring Sheet

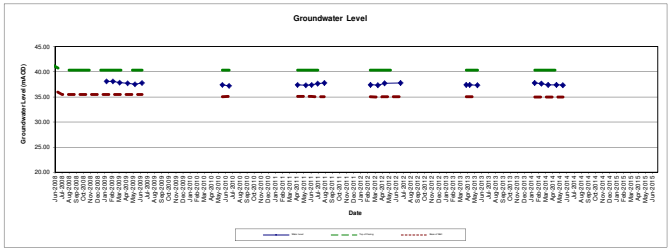
Sampling Location	**N48**																								
Type Of Sample Required	None	02/02/12	01/03/12	03/04/12	02/05/12	08/06/12	10/07/12	02/08/12	05/09/12	04/10/12	08/11/12	10/12/12	29/01/13	06/02/13	11/03/13	16/04/13	01/05/13	05/06/13	03/07/13	05/08/13	16/09/13	01/10/13	04/11/13	04/12/13	07/01/14
Determinand	Units																								
Water Level																									
Water level to top of casing	m	1.83	1.83	1.79	1.71	1.79	1.69	1.79	1.79	1.71	1.73	1.63	1.62	1.61	1.72	1.78	1.79	1.8	1.8	1.8	1.81	1.83	1.69	1.75	1.69
Borehole depth to top of casing	m	8.92	8.90	8.91	8.89	8.91	8.91	8.91	8.89	8.89	8.89	8.93	8.88	8.88	8.88	8.88	8.9	8.91	8.89	8.91	8.89	8.9	8.91	8.88	8.89
Top of casing relative to Ordnance Datum Level	m	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18
Water level relative to Ordnance Datum	m	38.35	38.35	38.39	38.47	38.39	38.49	38.39	38.39	38.47	38.45	38.55	38.56	38.57	38.46	38.40	38.39	38.38	38.38	38.38	38.37	38.35	38.49	38.43	38.49
Calculated purge volume	litres																								
Base of Well to Ordnance Datum	m	31.26	31.28	31.27	31.29	31.27	31.27	31.27	31.29	31.29	31.29	31.25	31.30	31.30	31.30	31.30	31.28	31.27	31.29	31.27	31.29	31.28	31.27	31.30	31.29
Gas Concentrations																									
Date monitored	-	02/02/12	01/03/12	03/04/12	02/05/12	08/06/12	10/07/12	02/08/12	05/09/12	04/10/12	08/11/12	10/12/12	29/01/13	06/02/13	11/03/13	16/04/13	01/05/13	05/06/13	03/07/13	05/08/13	16/09/13	01/10/13	04/11/13	04/12/13	07/01/14
Time of measurement	-	10:00	11:06	15:09	16:26	11:43	12:28	12:09	15:32	12:57	15:23	13:49	11:36	14:55	15:17	09:40	12:03	15:15	14:22	14:01	14:47	12:38	14:24	11:23	15:08
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	1.6	0.9	0.9	0.3	0.6	0.6	<0.1	0.5	0.6	0.7	1.4	1.4	1.3	1.2	0.5	0.5	0.3	0.3	0.2	0.4	0.4	1	1.4	0.7
Oxygen	% vol	20.9	20.4	20.3	21.0	20.0	20.3	20.4	19.8	19.9	20.1	20.5	20.0	20.7	19.4	20.3	20.1	20.9	20.1	20.5	20.5	20.4	20.2	19.7	20.7
Atmospheric Pressure	mbar	1034	1018	1011	1024	990	1007	1001	1022	999	1006	1025	987	1011	1019	990	1015	1020	1001	1004	984	1011	989	1016	983
Gas Pressure	mbar	-0.08	<0.01	-0.09	-0.07	-0.15	0.08	-0.08	0.03	0.23	0.23	-0.09	-0.23	-0.09	-0.16	-0.09	0.01	-0.21	-0.15	0.03	0.12	0.06	0.28	0.14	<0.01
Gas Flow Rate	l/hr	<0.1	-0.1	<0.1	0.1	-0.1	<0.1	<0.1	0.1	<0.1	0.2	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	ºC																								
Comment																									

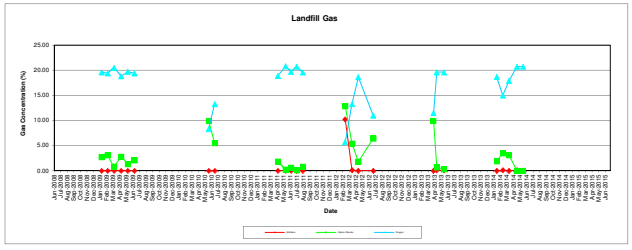
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N48**																	
Type Of Sample Required	None	03/02/14	05/03/14	01/04/14	07/05/14	04/06/14	01/07/14	05/08/14	02/09/14	08/10/14	03/11/14	02/12/14	02/03/15	02/06/15	01/09/15	11/12/15	01/03/16	30/06/16
Determinand	Units																	
Water Level																		
Water level to top of casing	m	1.7	1.7	1.78	1.79	1.8	1.82	1.85	1.77	1.72	1.77	1.74	1.83	1.81	1.86	1.84	1.84	1.81
Borehole depth to top of casing	m	8.87	8.89	8.87	8.89	8.92	8.89	8.88	8.89	8.88	8.92	8.87	8.9	8.87	8.88	8.88	8.91	8.88
Top of casing relative to Ordnance Datum Level	m	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18	40.18
Water level relative to Ordnance Datum	m	38.48	38.48	38.40	38.39	38.38	38.36	38.33	38.41	38.46	38.41	38.44	38.35	38.37	38.32	38.34	38.34	38.37
Calculated purge volume	litres																	
Base of Well to Ordnance Datum	m	31.31	31.29	31.31	31.29	31.26	31.29	31.30	31.29	31.30	31.26	31.31	31.28	31.31	31.30	31.30	31.27	31.30
Gas Concentrations																		
Date monitored	-	03/02/14	05/03/14	01/04/14	07/05/14	04/06/14	01/07/14	05/08/14	02/09/14	08/10/14	03/11/14	02/12/14	02/03/15	02/06/15	01/09/15	11/12/15	01/03/16	30/06/16
Time of measurement	-	14:54	12:17	13:53	13:43	11:25	14:34	12:13	11:36	10:50	14:27	14:58	12:37	13:00	14:00	11:05	12:18	11:54
Methane	% vol	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	1.2	1.1	0.6	0.1	0.3	0.2	0.3	0.1	0.4	0.3	1.2	0.7	0.5	0.5	1.5	2.4	0.2
Oxygen	% vol	20	20.4	20.3	20.4	20	19.5	19.6	20	19.8	20.5	19.8	20.4	19.6	14.3	20.7	19.9	20.8
Atmospheric Pressure	mbar	997	1009	1009	994	1002	1016	1012	1019	989	981	1022	990	982	1013	1002	991	997
Gas Pressure	mbar	0.04	<0.01	<0.01	-0.17	-0.22	0.09	-0.19	-0.17	<0.01	0.14	0.19	0.08	<0.01	-0.01	0.02	-0.17	<0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	0.1	-0.1	<0.1	<0.1	<0.1	0.1	<0.1	-0.1	<0.1
Insitu Liquid Determinations																		
pH	pH units																	
Electrical Conductivity	µS/cm																	
Dissolved Oxygen	mg/l																	
Temperature	℃																	
Comment										Growth of thistles/nettles becoming a problem for sampling.	Thistles/ nettles dying off	Thistles/nettles dying off						

Ness Farm Landfill
Field Monitoring Sheet

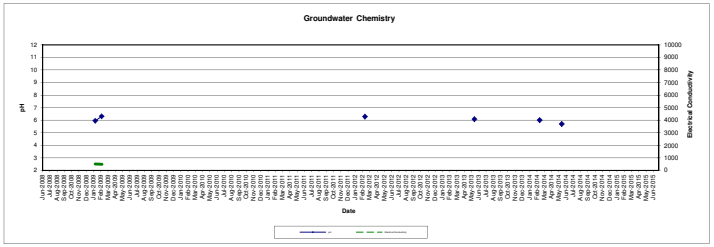
Sampling Location	N49b																		
Type Of Sample Required	Groundwater	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	22/04/05	18/05/05	21/06/05	27/07/05	00/01/00	16/09/05	01/11/05	18/11/05	15/12/05
Determinand	Units																			
Water Level																				
Water level to top of casing	m											Dry	1.42	3.19	Dry		3.21	2.28	2.26	2.26
Borehole depth to top of casing	m											4.80	4.80	4.80	4.80		4.80	4.80	4.80	4.80
Top of casing relative to Ordnance Datum Level	m											40.30	40.30	40.30	40.30		40.30	40.30	40.30	40.30
Water level relative to Ordnance Datum	m											35.50	38.88	37.11			37.09	38.02	38.04	38.04
Calculated purge volume	litres																			
Base of Well to Ordnance Datum	m											35.50	35.50	35.50	35.50		35.50	35.50	35.50	35.50
Gas Concentrations																				
Date monitored	-											22/04/2005	18/05/2005	21/06/2005	27/07/2005		16/09/2005	01/11/2005	18/11/2005	15/12/2005
Time of measurement	-											3.46pm	12.45	4.30	0.69		0.41	0.46	0.47	
Methane	% vol												16.90	1.10	14.70		0.80	<0.1	<0.1	
Carbon Dioxide	% vol											7.90	8.20	2.30	10.20		0.30	4.80	4.20	
Oxygen	% vol											21.10	19.60	14.90	11.10		16.40	18.70	18.40	
Atmospheric Pressure	mbar											1030.00	1029.00	1010.00	1021.00		1005.00	995.00	1024.00	
Gas Pressure	mbar											1.20	<0.1	<0.1	1.10		0.10		0.00	
Gas Flow Rate	l/hr												<0.1	<0.1	0.10		0.10		<0.1	
Insitu Liquid Determinations																				
pH	pH units												6.86				7.56			
Electrical Conductivity	µS/cm												2606				6260			
Dissolved Oxygen	mg/l												31				5.4			
Temperature	℃												12				14			
Comment		Could not access due to food stockpile within farm	Could not access	Could not access. Food stockpile within farm	Could not access stockpipe in farm	Flooded	Stock Pile in Farm	Stock Pile in Farm	Food Stockpiled in Farm	Food Stockpile in farm blocking access										Flooded





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N49b																							
Type Of Sample Required	Groundwater	06/01/06	16/02/06	23/03/06	13/04/06	05/05/06	27/06/06	18/07/06	10/08/06	12/09/06	05/10/06	10/11/06	12/12/06	12/01/07	09/02/07	14/03/07	23/04/07	21/05/07	05/06/07	24/07/07	14/08/07	07/09/07	16/10/07	13/11/07
Determinand	Units																							
Water Level																								
Water level to top of casing	m	1.92	2.39	2.14	2.11	2.56	2.91	2.88	2.84	1.96	1.84			2.28	2.28	2.23	2.25	2.30	2.37	2.22	2.24	2.70	2.72	2.75
Borehole depth to top of casing	m	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80
Top of casing relative to Ordnance Datum Level	m	40.30	40.30	40.30	40.30	40.30	40.30	40.30	40.30	40.30	40.30	40.30	40.30	40.30	40.30	40.30	40.30	40.30	40.30	40.30	40.30	40.30	40.30	40.30
Water level relative to Ordnance Datum	m	38.38	37.91	38.16	38.19	37.74	37.39	37.42	37.46	38.34	38.46			38.02	38.02	38.07	38.05	38.00	37.93	38.08	38.06	37.60	37.58	37.55
Calculated purge volume	litres						14	N/A	N/A	26	N/A	N/A	N/A	N/A	N/A	24	N/A	24	24	N/A	N/A	20	N/A	N/A
Base of Well to Ordnance Datum	m	35.50	35.50	35.50	35.50	35.50	35.50	35.50	35.50	35.50	35.50	35.50	35.50	35.50	35.50	35.50	35.50	35.50	35.50	35.50	35.50	35.50	35.50	35.50
Gas Concentrations																								
Date monitored	-	06/01/2006	16/02/2006	23/03/2006	13/04/2006	05/05/2006	27/06/2006	18/07/2006	10/08/2006	12/09/2006	05/10/2006	10/11/2006	12/12/2006	12/01/2007	09/02/2007	14/03/2007	23/04/2007	21/05/2007	05/06/2007	24/07/2007	14/08/2007	07/09/2007	16/10/2007	13/11/2007
Time of measurement	-	0.53	0.49	0.64	0.52	0.45	0.63	0.54	0.54	0.64	0.44		0.44	0.59	0.65	0.70	0.54	0.58	0.59	0.53	0.59	0.61	0.58	0.53
Methane	% vol	0.50	0.00	0.00	0.00	0.00	0.00	0.10	0.00	1.30	1.90			13.00	14.50	15.50	16.20	16.80	0.00	0.20	0.40	0.00	1.60	0.00
Carbon Dioxide	% vol	6.60	14.20	5.20	4.90	2.00	1.60	19.10	15.20	13.00	12.40			12.90	11.90	10.20	9.80	9.60	5.80	6.80	7.80	5.90	16.30	15.10
Oxygen	% vol	9.50	2.80	11.80	12.30	16.90	18.70	0.30	5.20	4.00	5.60			0.50	0.60	0.80	1.20	0.90	14.50	12.80	13.20	11.70	0.30	1.50
Atmospheric Pressure	mbar	1019.00	970.00	1001.00	987.00	1011.00	1010.00	1015.00	1008.00	1000.00	999.00			982.00	1004.00	1018.00	1002.00	1009.00	1023.00	998.00	992.00	1020.00	997.00	1002.00
Gas Pressure	mbar	4.80	0.60	0.90	1.20	0.70	<0.1	3.60	1.80	4.60	1.50			3.90	4.30	3.70	2.90	1.90	2.00	1.00	0.30	<0.1	0.1	1.9
Gas Flow Rate	l/hr	0.20	<0.1	0.1	0.10	<0.1	<0.1	0.20	0.20	<0.1	<0.1			3.10	2.80	1.90	1.00	0.60	<0.1	-2.70	-1.10	<0.1	<0.1	<0.1
Insitu Liquid Determinations																								
pH	pH units			5.69			6.49			6.56						6.37			5.85			6.46		
Electrical Conductivity	µS/cm			449			829			1223						941			861			584		
Dissolved Oxygen	mg/l			3.39			2.33			13.5						0.75			4.42			3.62		
Temperature	℃			9.9			16.8									10.1			11			12.4		
Comment								Borehole In Haybales	Borehole In Haybales/ Cover Flat To Ground	Casing flat to ground amongst hay bails/ purged liquid was black	Casing flat to ground amongst hay bales	Flooded	Borehole Flooded		Flip Cover Flat To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N49b**																									
Type Of Sample Required	Groundwater	12/12/07	17/01/08	06/02/08	11/03/08	22/04/08	27/05/08	11/06/08	22/07/08	20/08/08	23/09/08	29/10/08	26/11/08	16/12/08	27/01/09	24/02/09	25/03/09	28/04/09	29/05/09	29/06/09	31/07/09	27/08/09	30/09/09	30/10/09	30/11/09	18/12/09
Determinand	Units																									
Water Level																										
Water level to top of casing	m	2.24	2.20	2.22	2.40	2.27	2.78	2.70	DRY	DRY	DRY	DRY	DRY	DRY	2.21	2.20	2.46	2.59	2.78	2.51						
Borehole depth to top of casing	m	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80						
Top of casing relative to Ordnance Datum Level	m	40.30	40.30	40.30	40.30	40.30	40.30	41.30	40.30	40.30	40.30	40.30	40.30	40.30	40.30	40.30	40.30	40.30	40.30	40.30						
Water level relative to Ordnance Datum	m	38.06	38.10	38.08	37.90	38.03	37.52	38.60							38.09	38.10	37.84	37.71	37.52	37.79						
Calculated purge volume	litres	24.00	24.00	21	19	20	16								21	21	19	18	16	18						
Base of Well to Ordnance Datum	m	35.50	35.50	35.50	35.50	35.50	35.50	36.50	35.50	35.50	35.50	35.50	35.50	35.50	35.50	35.50	35.50	35.50	35.50	35.50						
Gas Concentrations																										
Date monitored	-	12/12/2007	17/01/2008	06/02/2008	11/03/2008	22/04/2008	27/05/2008	11/06/2008	22/07/2008	20/08/2008	23/09/2008	29/10/2008	26/11/2008	16/12/2008	27/01/2009	24/02/2009	25/03/2009	28/04/2009	29/05/2009	29/06/2009						
Time of measurement	-	0.53	0.58	0.63	0.49								08:52		02:52	02:38	14:48	14:40	14:47	13:32						
Methane	% vol	6.80	7.10	7.30	0.00	0.00	0.00	0.0							0.0	0.0	0.0	0.0	0.0	0.0						
Carbon Dioxide	% vol	7.50	7.80	6.90	5.40	4.30	3.20	1.9							2.7	3.1	0.8	2.8	1.3	2.1						
Oxygen	% vol	0.90	1.20	1.40	16.50	16.90	16.60	19.7							19.6	19.4	20.5	18.8	19.7	19.4						
Atmospheric Pressure	mbar	1024.00	982.00	1010.00	968.00	1015.00	1017.00	1010							1010	1025	995	1010	1026	1015						
Gas Pressure	mbar	-1.3	-0.8	-0.6	<0.1	<0.1	<0.1	<0.1							0.01	0.01	-0.04	0.05	0.01	<0.1						
Gas Flow Rate	l/hr	-2.2	-1.2	-1.2	<0.1	<0.1	<0.1	<0.1							<0.1	<0.1	<0.1	<0.1	<0.1	<0.1						
		14:40																								
Insitu Liquid Determinations																										
pH	pH units	6.9	6.78	6.62	6.07	6.6	6.6	6.4							5.96	6.32										
Electrical Conductivity	µS/cm	798	834	794	463	546	513	498							509	492										
Dissolved Oxygen	mg/l	1.39	2.1	1.65	12.31										0	0.01										
Temperature	ºC	10.5	10.1	10.3	10.6	8	8	10							8.84	7.98										
Comment		Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground				Inaccessible	Area Flooded	Area Flooded	Equipment Failure	Inaccessible	Inaccessible							No Access	No Access	No Access	No Access	No access	No access

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N49b**									(Sept mon)			(Dec Mon)													
Type Of Sample Required	Groundwater	01/02/10	23/02/10	16/03/10	27/04/10	05/05/10	08/06/10	06/07/10	02/08/10	18/10/10	27/10/10	15/11/10	10/01/10	26/01/11	22/02/11	31/03/11	25/04/11	31/05/11	24/06/11	21/07/11	18/08/11	07/09/11	05/10/11	02/11/11	01/12/11	13/01/12
Determinand	Units																									
Water Level																										
Water level to top of casing	m						2.90	3.1									2.90	2.98	2.92	2.67	2.53					
Borehole depth to top of casing	m						5.26	5.23									5.23	5.23	5.23	5.27	5.26					
Top of casing relative to Ordnance Datum Level	m						40.30	40.30									40.30	40.30	40.30	40.30	40.30					
Water level relative to Ordnance Datum	m						37.40	37.20									37.40	37.32	37.38	37.63	37.77					
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m						35.04	35.07									35.07	35.07	35.07	35.03	35.04					
Gas Concentrations																										
Date monitored	-						08/06/2010	06/07/2010									25/04/11	31/05/11	24/06/2011	21/07/11	18/08/11					
Time of measurement	-						15:26	14:26									16:40	12:00	15:46	10:27	14:42					
Methane	% vol						<0.1	<0.1									<0.1	<0.1	<0.1	<0.1	<0.1					
Carbon Dioxide	% vol						9.9	5.5									1.80	0.20	0.6	0.1	0.8					
Oxygen	% vol						8.3	13.3									18.90	20.80	19.7	20.7	19.6					
Atmospheric Pressure	mbar						1001	1012									1025	1012.00	1015	1013	1015					
Gas Pressure	mbar						0.01	0.03									-0.03	0.00	-0.07	-0.09	0.03					
Gas Flow Rate	l/hr						+/-0.1	+/-0.1									<0.1	<0.1	<0.1	-0.1	0.1					
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	ºC						10.1																			
Comment		No access	could not locate	No Access	Covered in farmers yard, unable to find.	Covered in farmers yard, unable to find.			Unable To Monitor, BH Covered By Farmer	Buried	Unable To Monitor, BH Covered By Farmer	Monitoring not undertaken due to adverse weather	BH covered over in farmers field, unable to sample.	Covered by farming materials	Covered by farming materials	BH covered over in farmers field, unable to sample.						Buried under hay bales	Buried under hay bales	Buried under hay bales	Buried under hay bales	Buried under hay bales

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N49b**																									
Type Of Sample Required	Groundwater	02/02/12	02/03/12	03/04/12	02/05/12	10/07/12	01/08/12	06/09/12	04/10/12	08/11/12	04/12/12	05/01/13	06/02/13	15/03/13	16/04/13	01/05/13	03/06/13	03/07/13	05/08/13	02/09/13	01/10/13	05/11/13	03/12/13	09/01/14	03/02/14	03/03/14
Determinand	Units																									
Water Level																										
Water level to top of casing	m		2.87	2.95	2.60	2.51									2.88	2.92	2.96								2.5	2.65
Borehole depth to top of casing	m		5.24	5.30	5.25	5.28									5.28	5.29	5.31								5.32	5.3
Top of casing relative to Ordnance Datum Level	m		40.30	40.30	40.30	40.30									40.30	40.30	40.30								40.30	40.30
Water level relative to Ordnance Datum	m		37.43	37.35	37.70	37.79									37.42	37.38	37.34								37.80	37.65
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m		35.06	35.00	35.05	35.02									35.02	35.01	34.99								34.98	35.00
Gas Concentrations																										
Date monitored	-		02/03/12	04/03/12	02/05/12	10/07/12									16/04/13	01/05/13	03/06/13								03/02/14	03/03/14
Time of measurement	-		15:52	10:10	09:46	13:32									09:03	12:39	14:40								12:21	14:39
Methane	% vol		10.2	0.1	<0.1	<0.1									<0.1	0.1	0.1								<0.1	0.1
Carbon Dioxide	% vol		12.8	5.4	1.8	6.4									9.9	0.7	0.3								1.9	3.5
Oxygen	% vol		5.7	13.3	18.6	11.0									11.5	19.6	19.6								18.7	15
Atmospheric Pressure	mbar		1020	1021	1026	1007									991	1014	1027								998	983
Gas Pressure	mbar		<0.01	-0.04	-0.05	-0.04									0.01	-0.06	-0.2								0.02	-0.03
Gas Flow Rate	l/hr		0.3	<0.1	<0.1	<0.1									-0.1	<0.1	<0.1								0.3	<0.1
Insitu Liquid Determinations																										
pH	pH units		6.3														6.1									6
Electrical Conductivity	µS/cm		1050														535									625
Dissolved Oxygen	mg/l		5.8														4.0									4.3
Temperature	ºC		11.0														11.7									8.7
Comment		Buried under hay bales					Buried under hay bales	Covered by hay bales.	Covered by hay bales	Covered by hay bales	Covered by hay bales.	Buried under hay bales.	Buried under hay bales	Buried under hay bales.				Covered in hay bales	Buried under hay bales	Buried under haybales.	Buried under hay bales	Buried under hay bales.	Buried under hay bales	Buried under hay bales			

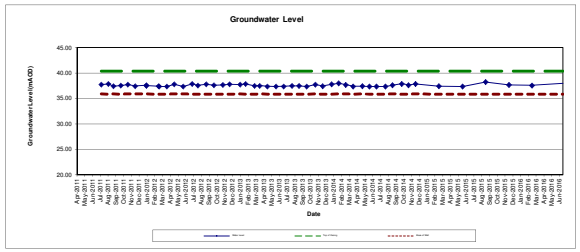
Ness Farm Landfill
Field Monitoring Sheet

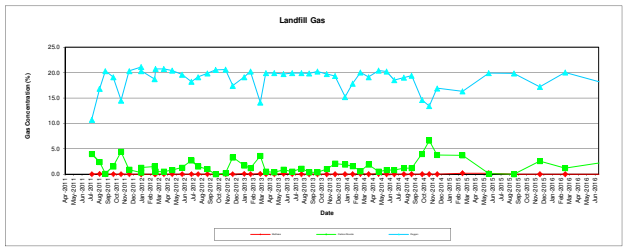
Sampling Location	**N49b**										Well no longer monitored (14th November 2014)
Type Of Sample Required	Groundwater	01/04/14	07/05/14	04/06/14	01/07/14	05/08/14	01/09/14	08/10/14	03/11/14	02/12/14	
Determinand	Units										
Water Level											
Water level to top of casing	m	2.89	2.89	2.93							
Borehole depth to top of casing	m	5.3	5.32	5.34							
Top of casing relative to Ordnance Datum Level	m	40.30	40.30	40.30							
Water level relative to Ordnance Datum	m	37.41	37.41	37.37							
Calculated purge volume	litres										
Base of Well to Ordnance Datum	m	35.00	34.98	34.96							
Gas Concentrations											
Date monitored	-	01/04/14	07/05/14	04/06/14							
Time of measurement	-	12:33	12:45	12:37							
Methane	% vol	<0.1	0.1	<0.1							
Carbon Dioxide	% vol	3.1	<0.1	<0.1							
Oxygen	% vol	17.9	20.7	20.7							
Atmospheric Pressure	mbar	999	993	1003							
Gas Pressure	mbar	<0.01	-0.26	-0.23							
Gas Flow Rate	l/hr	0.3	0.2	<0.1							
Insitu Liquid Determinations											
pH	pH units			5.7							
Electrical Conductivity	µS/cm			620							
Dissolved Oxygen	mg/l			5.8							
Temperature	℃			10.6							
Comment					Covered by silsage bales	Covered by silage bales	Covered by silage bales	Covered by silage bales	Covered by silage bales	Covered by silage bales	

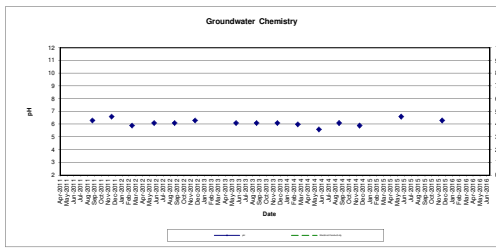
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N49c																									
Type Of Sample Required	Groundwater	21/07/11	18/08/11	07/09/11	05/10/11	02/11/11	01/12/11	13/01/12	13/01/12	01/03/12	04/03/12	03/04/12	02/05/12	06/06/12	10/07/12	02/08/12	04/09/12	04/10/12	08/11/12	04/12/12	14/01/13	05/02/13	12/03/13	01/04/13	01/05/13
Determinand	Units																									
Water Level																										
Water level to top of casing	m	2.60	2.48	2.93	2.82	2.60	2.90	2.74	2.84	2.93	3.00	3.00	2.56	2.97	2.49	2.77	2.53	2.76	2.67	2.55	2.63	2.47	2.84	2.83	2.95
Borehole depth to top of casing	m	4.47	4.50	4.47	4.50	4.47	4.47	4.45	4.46	4.48	4.51	4.51	4.47	4.45	4.49	4.48	4.48	4.48	4.49	4.49	4.46	4.48	4.49	4.45	4.49
Top of casing relative to Ordnance Datum Level	m	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35
Water level relative to Ordnance Datum	m	37.75	37.87	37.42	37.53	37.75	37.45	37.61	37.51	37.42	37.35	37.35	37.79	37.38	37.86	37.58	37.82	37.59	37.68	37.80	37.72	37.88	37.51	37.52	37.40
Calculated purge volume	litres																								
Base of Well to Ordnance Datum	m	35.88	35.85	35.88	35.85	35.88	35.88	35.90	35.89	35.87	35.84	35.84	35.88	35.90	35.86	35.87	35.87	35.87	35.86	35.86	35.89	35.87	35.86	35.90	35.86
Gas Concentrations																									
Date monitored	-	21/07/11	18/08/11	07/09/11	05/10/11	02/11/11	01/12/12	13/01/12	02/02/12	01/03/12	04/03/12	04/03/12	02/05/12	06/06/12	10/07/12	02/08/12	04/09/12	04/10/12	08/11/12	04/12/12	14/01/13	05/02/13	12/03/13	01/04/13	01/05/13
Time of measurement	-	10:33	14:48	15:38	16:41	16:03	14:46	10:42	0.44	12:15	10:16	10:16	09:52	14:49	13:39	11:18	15:43	12:25	17:07	14:17	13:04	12:15	10:11	11:43	12:45
Methane	% vol	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	4.0	2.4	0.1	1.5	4.4	0.9	0.30	1.30	1.5	0.5	0.5	0.8	1.3	2.7	1.5	1.0	<0.1	0.2	3.3	1.7	1.2	3.6	0.5	0.4
Oxygen	% vol	10.7	16.8	20.3	19.1	14.5	20.3	21.10	20.30	18.7	20.7	20.7	20.4	19.6	18.2	19.1	19.8	20.5	20.6	17.4	19.1	20.2	14.1	19.9	19.9
Atmospheric Pressure	mbar	1013	1015	993	990	996	999	1030	1034	1018	1021	1021	1026	997	1007	1001	1013	999	1007	1003	1006	976	1011	1017	1014
Gas Pressure	mbar	-0.11	0.03	-0.02	0.07	0.04	0.23	0.02	<0.01	-0.01	-0.01	-0.01	-0.02	0.02	-0.03	-0.09	0.08	0.28	0.26	0.53	-0.03	0.38	-0.13	0.13	-0.15
Gas Flow Rate	l/hr	<0.1	0.1	<0.1	<0.1	-0.1	-0.2	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.01	<0.1	0.2	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units			6.3			6.6			5.9				6.1			6.1			6.3					
Electrical Conductivity	µS/cm			520			555			440				470			515			505					
Dissolved Oxygen	mg/l			2.4						5.2				7.8			7.3			8.3					
Temperature	℃			12.0			6.7			12.0				9.1			11.5			7.4			7.5		
Comment																									

Cover Level - 40.353m AOD
Ground Level - 40.353m AOD







Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N49c**																								
Type Of Sample Required	Groundwater	03/06/13	03/07/13	05/08/13	02/09/13	01/10/13	04/11/13	03/12/13	07/01/14	03/02/14	03/03/14	01/04/14	07/05/14	04/06/14	01/07/14	05/08/14	01/09/14	08/10/14	03/11/14	01/12/14	02/03/15	03/06/15	01/09/15	02/12/15	01/03/16
Determinand	Units																								
Water Level																									
Water level to top of casing	m	2.99	2.96	2.84	2.88	2.98	2.59	2.89	2.55	2.36	2.64	2.95	2.94	2.99	2.99	2.97	2.73	2.46	2.7	2.48	2.92	3	2.13	2.66	2.76
Borehole depth to top of casing	m	4.48	4.48	4.48	4.5	4.48	4.47	4.49	4.5	4.46	4.47	4.5	4.47	4.48	4.5	4.49	4.46	4.48	4.48	4.44	4.52	4.49	4.49	4.5	4.49
Top of casing relative to Ordnance Datum Level	m	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35	40.35
Water level relative to Ordnance Datum	m	37.36	37.39	37.51	37.47	37.37	37.76	37.46	37.80	37.99	37.71	37.40	37.41	37.36	37.36	37.38	37.62	37.89	37.65	37.87	37.43	37.35	38.22	37.69	37.59
Calculated purge volume	litres																								
Base of Well to Ordnance Datum	m	35.87	35.87	35.87	35.85	35.87	35.88	35.86	35.85	35.89	35.88	35.85	35.88	35.87	35.85	35.86	35.89	35.87	35.87	35.91	35.83	35.86	35.86	35.85	35.86
Gas Concentrations																									
Date monitored	-	03/06/13	03/07/13	05/08/13	02/09/13	01/10/13	04/11/13	03/12/13	07/01/14	03/02/14	03/03/14	01/04/14	07/05/14	04/06/14	01/07/14	05/08/14	01/09/14	08/10/14	03/11/14	01/12/14	02/03/15	03/06/15	01/09/15	02/12/15	01/03/16
Time of measurement	-	15:09	12:44	12:40	14:29	15:22	12:53	14:18	12:36	12:29	15:09	12:42	12:51	13:01	13:54	11:28	15:13	12:28	13:48	13:59	11:54	14:13	12:30	09:43	11:36
Methane	% vol	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.9	0.5	1.1	0.4	0.4	1	2.1	1.9	1.6	0.6	1.9	0.5	0.8	0.8	1.2	1.2	4	6.6	3.8	3.7	0.1	<0.1	2.6	1.2
Oxygen	% vol	19.7	19.9	19.9	19.8	20.2	19.7	19.3	15.2	17.8	20	19.1	20.4	20.2	18.5	19	19.4	14.6	13.4	16.9	16.3	19.9	19.8	17.2	20
Atmospheric Pressure	mbar	1027	1000	1005	1012	1011	989	1018	982	997	983	1009	993	1002	1018	1013	1014	988	981	1009	990	1012	1013	997	991
Gas Pressure	mbar	-0.3	-0.22	0.01	0.15	0.05	0.35	0.31	<0.01	-0.02	-0.11	0.21	-0.27	-0.21	0.19	-0.14	0.26	-0.13	0.11	0.16	0.1	-0.15	0.05	-0.05	-0.18
Gas Flow Rate	l/hr	<0.1	0.2	0.1	<0.1	0.1	<0.1	<0.1	-0.1	<0.1	<0.1	0.4	0.2	<0.1	0.1	<0.1	0.4	0.1	<0.1	-0.2	0.1	<0.1	<0.1	0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units	6.1			6.1			6.1			6			5.6			6.1			5.9		6.6		6.3	
Electrical Conductivity	µS/cm	485			610			620			595			625			760			510		660		475	
Dissolved Oxygen	mg/l	7.8			8.1			9.2			10.4			8.8			7.5			4.8		8.41		4.8	
Temperature	℃	11.7			17.9			9.6			8			10.3			13.6			9.9		12.7		10	
Comment																									

Cover Level - 40.353m AOD
Ground Level - 40.353m AOD

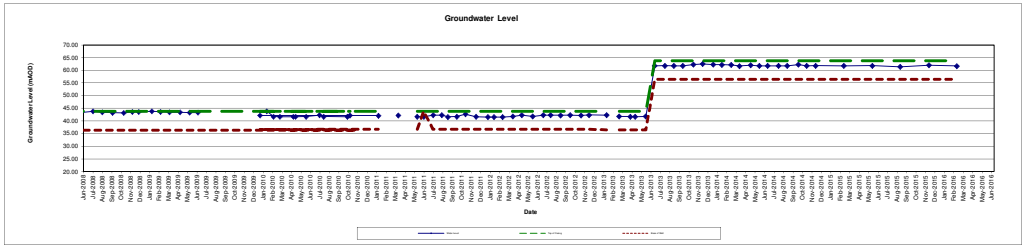
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N49c	
Type Of Sample Required	Groundwater	29/06/16
Determinand	Units	
Water Level		
Water level to top of casing	m	2.39
Borehole depth to top of casing	m	4.49
Top of casing relative to Ordnance Datum Level	m	40.35
Water level relative to Ordnance Datum	m	37.96
Calculated purge volume	litres	
Base of Well to Ordnance Datum	m	35.86
Gas Concentrations		
Date monitored	-	29/06/16
Time of measurement	-	15:31
Methane	% vol	<0.1
Carbon Dioxide	% vol	2.2
Oxygen	% vol	18.2
Atmospheric Pressure	mbar	996
Gas Pressure	mbar	<0.01
Gas Flow Rate	l/hr	0.1
Insitu Liquid Determinations		
pH	pH units	5.8
Electrical Conductivity	µS/cm	565
Dissolved Oxygen	mg/l	7.63
Temperature	ºC	11.7
Comment		

Cover Level - 40.353m AOD
Ground Level - 40.353m AOD

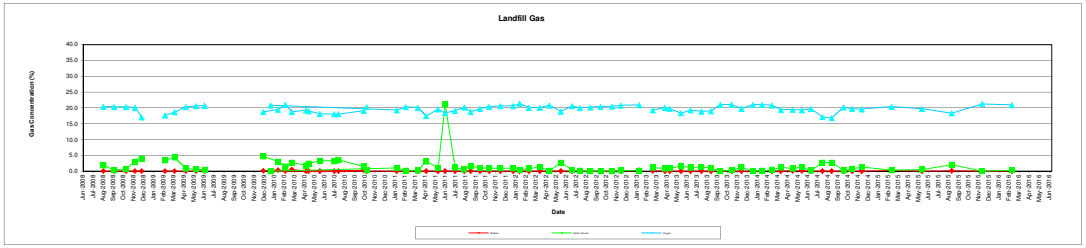
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N50**																		
Type Of Sample Required	None	23/06/04	04/08/04	26/08/04	27/09/04	05/11/04	18/11/04	15/12/04	27/01/05	11/03/05	22/04/05	18/05/05	22/06/05	27/07/05	16/08/05	15/09/05	01/11/05	18/11/05	15/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	0.80	0.85	0.85	0.89	0.91	0.89	0.88	0.89	0.90	6.50	6.91	6.20	7.31					
Borehole depth to top of casing	m	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50					
Top of casing relative to Ordnance Datum Level	m	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76					
Water level relative to Ordnance Datum	m	42.96	42.91	42.91	42.87	42.85	42.87	42.88	42.87	42.86	37.26	36.85	37.56	36.45					
Calculated purge volume	litres																		
Base of Well to Ordnance Datum	m	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26					
Gas Concentrations																			
Date monitored	-	23/06/04	04/08/04	26/08/04	27/09/2004	05/11/2004	18/11/2004	15/12/2004	27/01/2005	11/03/2005	22/04/2005	18/05/2005	22/06/2005	27/07/2005	16/08/2005	15/09/2005	01/11/2005	18/11/2005	15/12/2005
Time of measurement	-			1140hrs	14:10	12:40	15:00	13:30	12:10	12:15	4.29pm	14.20	8.30	18:00					13:47
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	02:24	<0.1	<0.1	<0.1	0.1	16.2	9.5	16.2					5.4
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	1	1.3	1.4	1.2	1.2	<0.1	6.4	10.6	6.4	10.6					23.2
Oxygen	% vol	20.9	20.9	20.8	20.9	20.4	20.8	20.2	19.9	20.2	7.2	8.4	11.6	8.4					13.5
Atmospheric Pressure	mbar	996	1014	1011	1008	1009	1010	970	1027	1020	1030	1028	1010	1028					1009
Gas Pressure	mbar	0.0		2.4	2.4	2.4	2.4	<0.1	<0.1	<0.1	1.4	1.1	1.1	1.1					2.6
Gas Flow Rate	l/hr	<0.1		2.7	2.6	2.6	2.6	1	1.2	1.4	1.1	0.1	0.1	0.1					0.2
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment						Stock Pile in Farm											could not locate	could not locate	



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N50																							
Type Of Sample Required	None	06/01/06	16/02/06	20/03/06	13/04/06	05/05/06	08/06/06	18/07/06	10/08/06	12/09/06	04/10/06	08/11/06	07/12/06	12/01/07	09/02/07	08/03/07	23/04/07	21/05/07	05/06/07	24/07/07	10/08/07	13/09/07	16/10/07	20/11/07
Determinand	Units																							
Water Level																								
Water level to top of casing	m					0.39	0.57	0.65	0.62	0.65	0.42	0.35		0.00	0.00	0.25	0.30	0.41	0.42	0.25	0.47	0.69		0.60
Borehole depth to top of casing	m					7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
Top of casing relative to Ordnance Datum Level	m					43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76
Water level relative to Ordnance Datum	m					43.37	43.19	43.11	43.14	43.11	43.34	43.41		43.76	43.76	43.51	43.46	43.35	43.34	43.51	43.29	43.07	43.76	43.16
Calculated purge volume	litres																							
Base of Well to Ordnance Datum	m					36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26
Gas Concentrations																								
Date monitored	-	06/01/2006	16/02/2006	20/03/2006	13/04/2006	05/05/2006	08/06/2006	18/07/2006	10/08/2006	12/09/2006	04/10/2006	08/11/2006	07/12/2006	12/01/2007	09/02/2007	08/03/2007	23/04/2007	21/05/2007	05/06/2007	24/07/2007	10/08/2007	13/09/2007	16/10/2007	20/11/2007
Time of measurement	-		11:52	19:12	12:31	10:57	14:08	14:45	14:09	10:12	12:45	11:30	15:15	15:05	14:45	12:10	12:35	13:30	14:00	13:05	13:05	14:15		14:55
Methane	% vol		5.60	4.80	4.5	0.0	0.0	0.0	0.0	0.1	0.1	0.2		15.3	15.4	8.2	8.0	0.0	0.0	0.5	0.0	0.0	No Access	0.0
Carbon Dioxide	% vol		25.90	18.10	18.6	5.0	1.5	1.0	1.0	1.1	1.3	2.0		34.9	33.3	33.7	35.2	5.1	1.6	13.6	1.4	0.7	Bulls	1.3
Oxygen	% vol		13.30	13.90	13.6	18.6	20.0	20.1	20.3	20.4	20.0	20.3		7.1	7.8	5.0	32.0	18.5	20.5	16.6	20.1	20.3	In Fields	19.5
Atmospheric Pressure	mbar		969	1016	987	1010	1015	1013	1006	1012	1001	1003		983	1003	1007	1002	1009	1023	998	1009	1014		1010
Gas Pressure	mbar		5.7	1.2	1.8	1.2	<0.1	1.9	2.5	1.4	0.8	2.6		4.7	3.8	9.1	7.6	3.5	3.8	4.4	<0.1	<0.1		+0.3
Gas Flow Rate	l/hr		4.2	1.6	1.7	<0.1	0.9	<0.1	<0.1	<0.1	<0.1	0.1		4.2	2.7	6.5	4.5	<0.1	<0.1	-2.4	<0.1	<0.1		<0.1
Insitu Liquid Determinations																								
pH	pH units																							
Electrical Conductivity	µS/cm																							
Dissolved Oxygen	mg/l																							
Temperature	℃																							
Comment		No Access	Flooded up to top of casing	Flooded up to top of casing	Flooded up to top of casing	Flooded up to top of casing			Cover Flat To Ground	Casing flat to ground in field	Casing flat to ground in field		No Access. Bulls in field		Flip Cover Flat To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	No Access Bulls in Fields	Cover Flush To Ground



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N50**																									
Type Of Sample Required	None	12/12/07	17/01/08	06/02/08	11/03/08	22/04/08	27/05/08	11/06/08	22/07/08	21/08/08	23/09/08	29/10/08	25/11/08	16/12/08	27/01/09	24/02/09	25/03/09	28/04/09	29/05/09	24/06/09	31/07/09	27/08/09	30/09/09	30/10/09	26/11/09	18/12/09
Determinand	Units																									
Water Level																										
Water level to top of casing	m	0.38	0.16	0.22	0.32	0.30	0.56	0.50	0.00	0.38	0.52	0.58	0.26	0.20	0.00	0.14	0.31	0.38	0.44	0.47						
Borehole depth to top of casing	m	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.5	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
Top of casing relative to Ordnance Datum Level	m	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76
Water level relative to Ordnance Datum	m	43.38	43.60	43.54	43.44	43.46	43.20	43.26	43.76	43.38	43.24	43.18	43.50	43.56	43.76	43.62	43.45	43.38	43.32	43.29						
Calculated purge volume	litres								60.00	56.96	55.84	55.36	57.92	58.40	60.00	58.88	57.52	56.96	56.48	56.24						
Base of Well to Ordnance Datum	m	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26
Gas Concentrations																										
Date monitored	-	12/12/2007	17/01/2008	06/02/2008	11/03/2008	22/04/2008	27/05/2008	11/06/2008	22/07/2008	21/08/2008	39714	29/10/2008	25/11/2008	16/12/2008	27/01/2009	24/02/2009	25/03/2009	15:20	29/05/2009	24/06/2009						18/12/2009
Time of measurement	-	12:25	14:30	15:30	11:20					11:44	02:09	09:07	01:40	01:55		07:26	13:37	04:48	14:13	13:51						13:02
Methane	% vol	0.0	0.0	0.0	0.0	0	0	0.0		00:00	0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0						0.1
Carbon Dioxide	% vol	2.0	2.6	3.5	2.8	3.9	1	0.0		21:36	0.3	0.7	3.0	4.0		3.5	4.4	0.8	0.6	0.4						4.7
Oxygen	% vol	20.5	20.1	20.0	19.9	20.4	20.2	21.4		09:36	20.3	20.3	20.1	17.0		17.6	18.6	20.3	20.6	20.7						18.7
Atmospheric Pressure	mbar	1024	982	1010	967	1015	1017	1008		00:00	1020	995	1021	1001		1024	993	1009	1026	1023						1019
Gas Pressure	mbar	<0.1	<0.1	<0.1	3.9	<0.1	<0.1	<0.1		02:24	<0.1	<0.1	4.12	14.07		-0.46	-3.34	0.00	0.03	DAMAGED						0.03
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	3.5	<0.1	<0.1	<0.1		02:24	<0.1	<0.1	1.20	7.50		-0.50	-3.60	<0.1	<0.1	DAMAGED						-0.20
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	℃																									
Comment		Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Cover Flush To Ground	Inaccessible	Cover Flush To Ground											Destroyed	Destroyed	Destroyed		Casing damaged	Casing damaged

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N50**									(Sept mon)			(Dec Mon)													
Type Of Sample Required	None	01/02/10	23/02/10	15/03/10	27/04/10	05/05/10	08/06/10	21/07/10	03/08/10	18/10/10	27/10/10	15/11/10	10/01/10	26/01/11	22/02/11	31/03/11	25/04/11	31/05/11	21/06/11	21/07/11	18/08/11	07/09/11	05/10/11	02/11/11	06/12/11	13/01/12
Determinand	Units																									
Water Level																										
Water level to top of casing	m	0.00	2.04	2.11	2.13	2.11	2.06	1.50	2.04	2.09	1.53		1.60	1.66		1.55		2.14	2.15	1.48	1.50	2.16	2.04	1.07	2.07	2.23
Borehole depth to top of casing	m	7.50	7.14	4.33	7.13	7.18	7.13	7.11	7.12	7.20	7.08		7.13	7.09		7.05		7.05		7.11	7.09	7.08	7.10	7.08	7.11	7.07
Top of casing relative to Ordnance Datum Level	m	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76		43.76	43.76		43.76		43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76
Water level relative to Ordnance Datum	m	43.76	41.72	41.65	41.63	41.65	41.70	42.26	41.72	41.67	42.23		42.16	42.10		42.21		41.62	41.61	42.28	42.26	41.60	41.72	42.69	41.69	41.53
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.26	36.63	36.67		36.71		36.71	43.76	36.65	36.67	36.68	36.66	36.68	36.65	36.69
Gas Concentrations																										
Date monitored	-	01/02/2010	23/02/2010	15/03/2010	26/04/2010	05/05/2010	08/06/2010	21/07/2010	03/08/2010	18/10/2010	27/10/2010		11/01/2011	26/01/2011	22/02/2011	31/03/11	25/04/11	31/05/11	21/06/11	21/07/11	18/08/11	07/09/11	05/10/11	02/11/11	06/12/12	13/01/12
Time of measurement	-	11:02	17:40	17:00	15:53	09:29	14:08	11:49	10:56	16:15	09:53		11:05	10:35	10:50	10:50	15:58	11:28	12:30	09:30	14:22	16:12	17:04	15:26	14:44	09:38
Methane	% vol	0.3	<0.1	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	3.0	1.4	2.7	1.8	2.4	3.3	3.2	3.5	1.5	0.3		<0.1	1.0	0.1	0.2	3.1	1.0	21.2	1.1	0.5	1.6	1.0	0.9	0.9	0.9
Oxygen	% vol	19.5	21.0	18.7	19.3	19.0	18.1	18.0	18.0	19.1	20.3		20.8	19.3	20.3	20.1	17.4	19.6	18.4	19.1	20.2	18.7	19.8	20.4	20.6	20.6
Atmospheric Pressure	mbar	1012	994	1012	1012	1013	1000	996	1003	998	998		999	1016	1011	986	1026	1015	1005	1013	1015	993	990	996	997	1029
Gas Pressure	mbar	0.01	0.00	-0.05	+/-0.01	-0.01	-0.02	+/-0.01	+/-0.01	+/-0.01	0.02		0.05	0.2	-0.27	-0.01	0	0	0.00	0.02	<0.01	-0.02	0.10	0.02	0.10	0.03
Gas Flow Rate	l/hr	0.10	0.0	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1		+/-0.1	+/-0.1	-0.5	0.0	2.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	-0.2	-0.1	0.1
Insitu Liquid Determinations																										
pH	pH units																					6.7			6.8	
Electrical Conductivity	µS/cm																					825			720	
Dissolved Oxygen	mg/l																					5.5			5.5	
Temperature	℃						9.3									9.5						12.0			9.7	
Comment												Monitoring not undertaken due to adverse weather															

Ness Farm Landfill
Field Monitoring Sheet

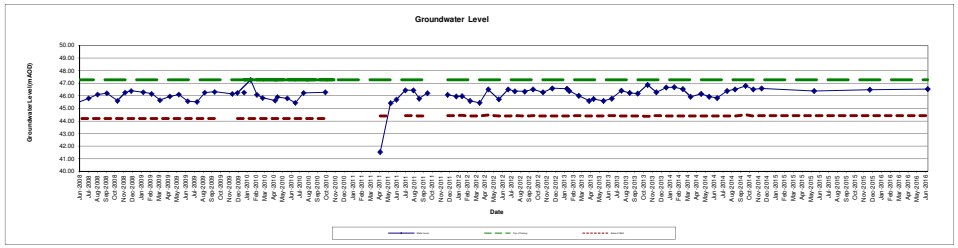
Sampling Location	**N50**																								
Type Of Sample Required	None	02/02/12	01/03/12	03/04/12	02/05/12	06/06/12	10/07/12	02/08/12	03/09/12	04/10/12	08/11/12	04/12/12	29/01/13	06/02/13	11/03/13	16/04/13	01/05/13	04/06/13	03/07/13	05/08/13	03/09/13	01/10/13	04/11/13	04/12/13	07/01/14	03/02/14
Determinand	Units																								
Water Level																									
Water level to top of casing	m	2.22	2.22	2.03	1.46	2.03	1.48	1.51	1.55	1.47	1.60	1.42	1.51		2.03	2.05	2.09	2	1.98	1.95	2.04	2.02	1.49	1.28	1.54	1.55
Borehole depth to top of casing	m	7.09	7.05	7.09	7.10	7.10	7.11	7.12	7.00	7.12	7.11	7.11	7.26		7.30	7.3	7.3	7.28	7.28	7.28	7.28	7.32	7.32	7.32	7.32	7.3
Top of casing relative to Ordnance Datum Level	m	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76	43.76		43.76	43.76	43.76	43.76	63.76	63.76	63.76	63.76	63.76	63.76	63.76	63.76
Water level relative to Ordnance Datum	m	41.54	41.54	41.73	42.30	41.73	42.28	42.25	42.21	42.29	42.16	42.34	42.25		41.73	41.71	41.67	41.76	61.78	61.81	61.72	61.74	62.27	62.48	62.22	62.21
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m	36.67	36.71	36.67	36.66	36.66	36.65	36.64	36.76	36.64	36.65	36.65	36.50		36.46	36.46	36.46	36.48	56.48	56.48	56.48	56.44	56.44	56.44	56.44	56.46
Gas Concentrations																										
Date monitored	-	02/02/12	01/03/12	03/04/12	02/05/12	06/06/12	10/07/12	02/08/12	03/09/12	04/10/12	08/11/12	04/12/12	29/01/13		11/03/13	16/04/13	01/05/13	04/06/13	03/07/13	05/08/13	03/09/13	01/10/13	04/11/13	04/12/13	07/01/14	03/02/14
Time of measurement	-	10:08	11:23	14:51	16:16	15:33	12:21	12:20	15:50	13:04	15:30	12:20	11:43		14:49	09:47	12:11	14:42	14:32	14:07	14:19	12:44	14:32	12:18	15:15	15:01
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2		0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
Carbon Dioxide	% vol	0.4	0.8	1.3	0.1	2.7	0.3	0.1	<0.1	<0.1	<0.1	0.2	0.1		1.1	0.8	0.9	1.6	1.1	1.3	0.9	<0.1	0.3	1.2	<0.1	0.1
Oxygen	% vol	21.4	20.1	20.1	20.8	18.9	20.6	20.0	20.2	20.4	20.5	20.8	20.9		19.3	20.1	19.7	18.3	19.3	18.9	19	21	21	19.8	21	21
Atmospheric Pressure	mbar	1033	1017	1010	1023	995	1007	1000	1012	999	1006	1001	987		1019	990	1015	1027	1002	1004	1018	1011	989	1016	983	997
Gas Pressure	mbar	<0.01	-0.01	-0.08	-0.17	-0.07	0.11	-0.17	-0.19	0.21	0.25	0.47	-0.18		-0.08	0.04	<0.01	-0.27	-0.07	0.03	0.21	0.17	0.31	0.36	0.07	0.12
Gas Flow Rate	l/hr	<0.1	-0.1	<0.1	<0.1	-0.1	<0.1	<0.1	-0.1	<0.1	0.1	<0.1	<0.1		<0.1	0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	-0.3
Insitu Liquid Determinations																										
pH	pH units		6.7			6.6			6.8			7.0						6.4			6.6			6.7		
Electrical Conductivity	µS/cm		650			835			495			560						950			955			750		
Dissolved Oxygen	mg/l		0.3			4.9			2.4			<1.0						7.7			1.8			10		
Temperature	ºC		10.0			9.5			13.1			7.2			7.4			10.0			14.0			9.3		
Comment														Data not saved on gas analyser												

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N50**																
Type Of Sample Required	None	05/03/14	01/04/14	07/05/14	04/06/14	01/07/14	05/08/14	02/09/14	08/10/14	03/11/14	02/12/14	03/03/15	02/06/15	01/09/15	02/12/15	01/03/16	27/06/16
Determinand	Units																
Water Level																	
Water level to top of casing	m	1.66	2.08	1.74	2.04	2.04	2.03	2	1.45	2	1.95	2.03	1.94	2.4	1.71	2.06	
Borehole depth to top of casing	m	7.29	7.31	7.32	7.3	7.31	7.32	7.32	7.33	7.31	7.31	7.33	7.3	7.31	7.33	7.33	
Top of casing relative to Ordnance Datum Level	m	63.76	63.76	63.76	63.76	63.76	63.76	63.76	63.76	63.76	63.76	63.76	63.76	63.76	63.76	63.76	
Water level relative to Ordnance Datum	m	62.10	61.68	62.02	61.72	61.72	61.73	61.76	62.31	61.76	61.81	61.73	61.82	61.36	62.05	61.70	
Calculated purge volume	litres																
Base of Well to Ordnance Datum	m	56.47	56.45	56.44	56.46	56.45	56.44	56.44	56.43	56.45	56.45	56.43	56.46	56.45	56.43	56.43	
Gas Concentrations																	
Date monitored	-	05/03/14	01/04/14	07/05/14	04/06/14	01/07/14	05/08/14	02/09/14	08/10/14	03/11/14	02/12/14	03/03/15	02/06/15	01/09/15	02/12/15	01/03/16	
Time of measurement	-	12:24	13:58	13:49	11:33	14:40	12:19	12:09	10:56	14:33	14:20	-	13:09	14:05	14:19	12:23	
Methane	% vol	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.1	<0.1	<0.1	
Carbon Dioxide	% vol	0.4	1.2	0.8	1.3	0.2	2.7	2.7	0.2	0.7	1.3	0.3	0.5	2	<0.1	0.3	
Oxygen	% vol	20.8	19.4	19.5	19.3	19.7	17.1	16.8	20.2	19.7	19.6	20.4	19.7	18.3	21.3	20.9	
Atmospheric Pressure	mbar	1009	1009	994	1002	1016	1012	1018	989	981	1022	990	981	1013	1003	990	
Gas Pressure	mbar	-0.01	0.21	-0.26	-0.22	0.08	-0.2	-0.25	0.03	0.12	0.19	0.18	-0.01	<0.01	0.03	-0.16	
Gas Flow Rate	l/hr	-0.2	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	-0.1	<0.1	<0.1	<0.1	-0.1	0.3	-0.1	
Insitu Liquid Determinations																	
pH	pH units	6.8			6.2			6.5			6.6		6.9		6.6		6.2
Electrical Conductivity	µS/cm	640			725			765			590		940		730		680
Dissolved Oxygen	mg/l	6.1			7			2.2			3.9		5.22		5.2		6.74
Temperature	℃	7.9			10.7			12.7			9.9		11.5		9.9		12.9
Comment									Growth of thistles/nettles becoming a problem for sampling	Thistles/ nettles dying off	Thistles/nettles dying off						Gas and level measurement missed

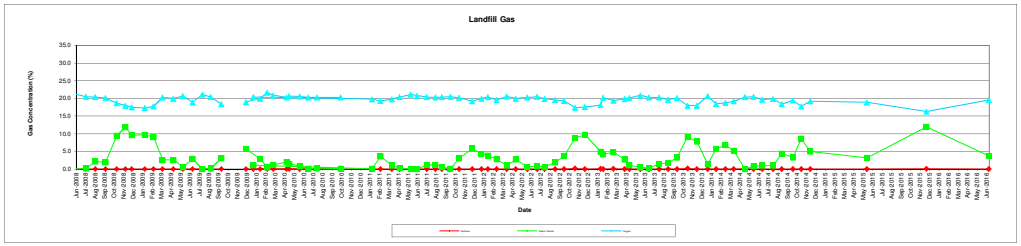
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N51																								
Type Of Sample Required	Groundwater	23/06/04	04/08/04	25/08/04	27/09/04	05/11/04	18/11/04	16/12/04	27/01/05	11/03/04	22/04/05	18/05/05	22/06/05	27/07/05	17/08/05	15/09/05	28/10/05	18/11/05	15/12/05	06/01/06	16/02/06	20/03/06	13/04/06	05/05/06	08/06/06
Determinand	Units																								
Water Level																									
Water level to top of casing	m	1.72	1.74	1.74							1.17	Dry	Dry	Dry	Dry	Dry	1.78	1.77	1.77	1.04	1.65	1.04	1.03	1.68	1.74
Borehole depth to top of casing	m	3.07	3.07	3.07							3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07
Top of casing relative to Ordnance Datum Level	m	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27
Water level relative to Ordnance Datum	m	45.55	45.53	45.53							46.10	44.20	44.20	44.20			45.49	45.50	45.50	46.23	45.62	46.23	46.24	45.59	45.53
Calculated purge volume	litres	32.40																							6.00
Base of Well to Ordnance Datum	m	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20
Gas Concentrations																									
Date monitored	-	23/06/04	04/08/04	25/08/04	27/09/2004	05/11/2004	18/11/2004	16/12/2004	27/01/2005	11/03/2004	22/04/2005	18/05/2005	22/06/2005	27/07/2005	17/08/2005	15/09/2005	28/10/2005	18/11/2005	15/12/2005	06/01/2006	16/02/2006	20/03/2006	13/04/2006	05/05/2006	08/06/2006
Time of measurement	-		13:40	1650hrs							5.20pm	15.40	9.40	18:29	10.45	7:16	12:32	11:22	13:55	15:18	12:05	16:10	12:41	11:05	14:15
Methane	% vol	<0.1	<0.1	<0.1							17.4	15.2	13.6	15.2	<0.1	31.1	<0.1	<0.1	<0.1	0.3	0.00	0.00	0.0	0.0	0.0
Carbon Dioxide	% vol	<0.1	<0.1	<0.1							11.2	11.1	14.1	11.1	<0.1	21.2	5	4.9	8.3	8.8	3.70	6.90	7.4	2.6	1.2
Oxygen	% vol	20.8	20.7	20.7							8.9	11.6	8.4	11.6	16.9	8.6	19.1	19.3	17	17.1	19.90	17.40	16.3	19.7	20.4
Atmospheric Pressure	mbar	996	1015	997							1030	1028	1010	1028	1015	1005	990	1023	1009	1018	969	1016	987	1010	1014
Gas Pressure	mbar	0.0		2.4							0.1	<0.1	<0.1	<0.1	<0.1	0		0	2.6	4.7	0.8	3.1	4.5	1.1	1.4
Gas Flow Rate	l/hr	<0.1		2.7							0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	4.1	2.2	0.3	4	3.2	<0.1	2.5
Insitu Liquid Determinations																									
pH	pH units	7.3									5.5	6.18		6.18		6.88			6.06			6.1			6.31
Electrical Conductivity	µS/cm	476									3610	12420		12420		7210			414			323			591
Dissolved Oxygen	mg/l	7.07										5.3		5.3		9.1			1.3			3.55			3.66
Temperature	℃	11.8										10		10		14.1			9.8			8.4			11.9
Comment					Could not access	Could no access	Could not acess	Could not access	Could not Access	Could not Access															



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N51																									
Type Of Sample Required	Groundwater	18/07/06	10/08/06	12/09/06	04/10/06	08/11/06	07/12/06	12/01/07	09/02/07	08/03/07	23/04/07	21/05/07	05/06/07	25/07/07	10/08/07	13/09/07	16/10/07	20/11/07	12/12/07	16/01/08	06/02/08	11/03/08	22/04/08	21/05/08	11/06/08	22/07/08
Determinand	Units																									
Water Level																										
Water level to top of casing	m	1.62	1.60	1.84	1.05	1.11	1.05	1.05	1.03	1.11	1.14	1.59	1.28	1.30	1.31	1.78	1.66	1.76	1.11	0.68	0.72	0.72	1.20	1.79	1.82	1.47
Borehole depth to top of casing	m	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07
Top of casing relative to Ordnance Datum Level	m	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27
Water level relative to Ordnance Datum	m	45.65	45.67	45.43	46.22	46.16	46.22	46.22	46.24	46.16	46.13	45.68	45.99	45.97	45.96	45.49	45.61	45.51	46.16	46.59	46.55	46.55	46.07	45.48	45.45	45.80
Calculated purge volume	litres	N/A	N/A	8.00	N/A	N/A	14.00	N/A	N/A	12.00	N/A	N/A	12.00	N/A	N/A		N/A	N/A	12.00	17.00	18.80	18.80	14.96	10.24	10.00	12.80
Base of Well to Ordnance Datum	m	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20
Gas Concentrations																										
Date monitored	-	18/07/2006	10/08/2006	12/09/2006	04/10/2006	08/11/2006	07/12/2006	12/01/2007	09/02/2007	08/03/2007	23/04/2007	21/05/2007	05/06/2007	25/07/2007	10/08/2007	13/09/2007	16/10/2007	20/11/2007	12/12/2007	16/01/2008	06/02/2008	11/03/2008	22/04/2008	21/05/2008	11/06/2008	22/07/2008
Time of measurement	-	14:38	14:02	10:00	12:55	11:00	15:10	15:00	14:40	11:25	12:25	13:20	13:30	12:22	12:55	14:09	15:35	14:45	12:20	14:45	11:55	13:30	00:00	00:00	00:00	00:00
Methane	% vol	0.0	0.0	0.2	0.1	0.2	0.1	0	0.0	20.4	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0	0	0.0	0.0
Carbon Dioxide	% vol	0.3	0.9	0.2	0.7	7.2	2.7	10.9	11.4	2.3	4.6	1.5	0.6	0.8	0.3	0.0	0.0	0.0	10.8	11.2	10.6	3.4	5.5	0.3	0.0	0.2
Oxygen	% vol	20.6	19.9	20.8	20.8	18.7	20.1	18	17.2	0.1	19.1	20.6	21.1	20.7	20.8	20.9	20.9	20.7	17.9	15.8	15.6	20.2	19.3	21.5	21.4	20.5
Atmospheric Pressure	mbar	1013	1006	1012	1001	1002	960	983	1003	1007	1002	1009	1023	996	1009	1014	997	1010	1024	989	1010	966	1016	1008	1008	1004
Gas Pressure	mbar	2.1	<0.1	2.5	<0.1	2.2	<0.1	1.3	1.8	4.3	2	1.7	2.3	1.8	<0.1	<0.1	<0.1	<0.1	-2.1	-3.6	-2	-0.3	-0.8	<0.1	<0.1	-0.5
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	-2.4	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-3.1	-2.9	-1.5	<0.1		<0.1	<0.1	<0.1
Insitu Liquid Determinations																										
pH	pH units			6.63			6.68			6.28			5.47						5.83	6.12	6.17	5.95	6	5.6	6.1	5.8
Electrical Conductivity	µS/cm			810			567			685			622						484	582	564	386	510	486	523	504
Dissolved Oxygen	mg/l			4.29			2.75			1.45			3.56						7.72	6.94	7.23	6.12				
Temperature	ºC			13.7			9.6			9.7			10.7						9	8.9	8.9	9.1	8	11	9	10
Comment																Insufficient to sample										



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N51**																									(Sept mon)
Type Of Sample Required	Groundwater	21/08/08	23/09/08	29/10/08	25/11/08	16/12/08	27/01/09	24/02/09	25/03/09	28/04/09	29/05/09	29/06/09	31/07/09	27/08/09	30/09/09	30/11/09	18/12/09	01/02/10	23/02/10	15/03/10	27/04/10	05/05/10	08/06/10	06/07/10	03/08/10	18/10/10
Determinand	Units																									
Water Level																										
Water level to top of casing	m	1.17	1.07	1.66	1.01	0.87	0.99	1.10	1.61	1.32	1.17	1.69	1.75	1.02	0.95	1.12	1.03	0.00	1.18	1.43	1.64	1.36	1.47	1.82	1.03	0.99
Borehole depth to top of casing	m	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	2.86	2.86	2.85	2.86	2.86	2.86	2.85	2.85
Top of casing relative to Ordnance Datum Level	m	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27
Water level relative to Ordnance Datum	m	46.10	46.20	45.61	46.26	46.40	46.28	46.17	45.66	45.95	46.10	45.58	45.52	46.25	46.32	46.15	46.24	47.27	46.09	45.84	45.63	45.91	45.80	45.45	46.24	46.28
Calculated purge volume	litres	15.20	16.00	11.28	16.48	18	17	16	12	14	15	11	11	16	17		16	25								
Base of Well to Ordnance Datum	m	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20		44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20
Gas Concentrations																										
Date monitored	-	21/08/2008	23/09/2008	29/10/2008	25/11/2008	16/12/2008	27/01/2009	24/02/2009	25/03/2009	28/04/2009	29/05/2009	29/06/2009	31/07/2009	27/08/2009	30/09/2009		18/12/2009	01/02/2010	23/02/2010	15/03/2010	26/04/2010	05/05/2010	08/06/2010	06/07/2010	03/08/2010	27/10/2010
Time of measurement	-	#REF!	12:14	10:33	02:52	03:36	01:55	09:07	13:43	15:30	14:19	13:21	00:00	10:54	10:44		12:57	08:09	17:45	16:50	15:41	09:19	13:57	13:59	10:45	09:45
Methane	% vol	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0		0.0	0.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1
Carbon Dioxide	% vol	2.2	1.9	9.4	11.9	9.6	9.7	9.1	2.6	2.6	0.6	2.9	0.0	0.2	3.1		5.7	2.9	0.5	1.2	2.0	1.5	0.8	0.1	0.3	0.1
Oxygen	% vol	20.4	20.1	18.7	18.0	17.5	17.3	17.8	20.3	20.0	20.7	18.9	21.1	20.4	18.4		19.0	20.0	21.7	20.9	20.3	20.7	20.6	20.3	20.3	20.3
Atmospheric Pressure	mbar	996	1020	994	1021	1001	1009	1024	992	1008	1025	1015	1009	1003	1013		1019	1012	994	1012	1012	1013	1000	1012	1003	998
Gas Pressure	mbar	2.5	<0.1	-2.30	3.27	-1.16	-2.66	-2.66	0.15	0.00	0.01	-0.70	0.03	0.02	0.05		-0.12	0.00	-1.74	0.07	1.47	0.6	-2.43	0.06	0.02	0.03
Gas Flow Rate	l/hr	-1.1	-3	-2.40	2.40	-3.00	-3.40	-3.10	<0.1	-2.70	-0.70	-0.20		<0.1	-2.20		-0.70	-1.50	0.0	+/-0.1	-2	0.7	-2.4	+/-0.1	+/-0.1	+/-0.1
Insitu Liquid Determinations																										
pH	pH units			9.27	6.7		5.7	6.51																		
Electrical Conductivity	µS/cm			578	667		564	669																		
Dissolved Oxygen	mg/l			2.27			0.63	1.67																		
Temperature	℃			10.21	5		7.89	8.59																		
Comment																Gas analysis lost										

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N51**			(Dec Mon)																							
Type Of Sample Required	Groundwater	27/10/10	15/11/10	10/01/10	26/01/11	22/02/11	31/03/11	25/04/11	31/05/11	20/06/11	21/07/11	18/08/11	07/09/11	05/10/11	02/11/11	14/12/11	13/01/12	02/02/12	01/03/12	03/04/12	02/05/12	08/06/12	10/07/12	02/08/12	05/09/12	04/10/12
Determinand	Units																										
Water Level																											
Water level to top of casing	m			1.02				5.74	1.86	1.58	0.82	0.84	1.48	1.05		1.18	1.31	1.30	1.67	1.83	0.76	1.54	0.76	0.90	0.92	0.75
Borehole depth to top of casing	m			2.86				2.86	2.86		2.84	2.84	2.87	2.87		2.85	2.84	2.82	2.88	2.87	2.79	2.86	2.88	2.85	2.87	2.85
Top of casing relative to Ordnance Datum Level	m	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27		47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27
Water level relative to Ordnance Datum	m			46.25				41.53	45.41	45.69	46.45	46.43	45.79	46.22		46.09	45.96	45.97	45.60	45.44	46.51	45.73	46.51	46.37	46.35	46.52
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m			44.41				44.41	44.41		44.43	44.43	44.40	44.40		44.42	44.43	44.45	44.39	44.40	44.48	44.41	44.39	44.42	44.40	44.42
Gas Concentrations																											
Date monitored	-			10/01/2011	26/01/2011	22/02/2011	31/03/11	25/04/11	31/05/11	20/06/11	21/07/11	18/08/11	07/09/11	05/10/11	02/11/11	14/12/12	13/01/12	02/02/12	01/03/12	03/04/12	02/05/12	08/06/12	10/07/12	02/08/12	05/09/12	04/10/12
Time of measurement	-			11:00	10:30	11:00	10:45	15:49	11:20	14:05	09:38	14:29	16:19	17:09	15:40	13:02	09:46	10:13	11:57	14:40	16:07	11:23	12:11	12:29	15:42	13:13
Methane	% vol			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol			1.1	0.1	3.6	1.0	0.3	<0.1	<0.1	1.2	1.2	0.6	0.1	3.1	5.8	4.3	3.8	2.8	1.0	2.7	0.6	0.8	0.6	1.9	3.7
Oxygen	% vol			20.4	19.8	19.3	19.8	20.4	21.1	20.8	20.4	20.3	20.4	20.5	20.2	19.2	20.0	20.4	19.6	20.6	20.0	20.3	20.5	19.9	19.6	19.3
Atmospheric Pressure	mbar			999	1016	1011	986	1026	1015	1005	1013	1015	993	990	996	974	1029	1033	1017	1010	1023	991	1007	1000	1021	998
Gas Pressure	mbar			0.85	0.22	0.18	-0.04	-1.24	0	0.00	-0.40	0.02	-0.04	0.03	-0.08	<0.1	0.03	<0.01	-0.11	-0.08	-0.16	-0.11	0.05	-0.50	<0.01	0.15
Gas Flow Rate	l/hr			1.2	+/-0.1	-0.3	0.0	-3.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.8	-0.3	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	0.1	0.3
Insitu Liquid Determinations																											
pH	pH units																										
Electrical Conductivity	µS/cm																										
Dissolved Oxygen	mg/l																										
Temperature	ºC																										
Comment			Monitoring not undertaken due to adverse weather		Unable to remove bung		Could not remove bung to dip								Bung could not be removed												

Ness Farm Landfill
Field Monitoring Sheet

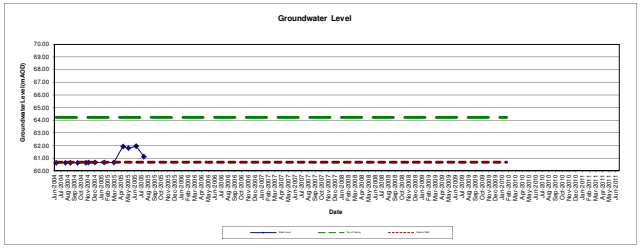
Sampling Location	**N51**																									
Type Of Sample Required	Groundwater	08/11/12	10/12/12	29/01/13	06/02/13	11/03/13	16/04/13	01/05/13	05/06/13	03/07/13	05/08/13	03/09/13	01/10/13	04/11/13	04/12/13	07/01/14	03/02/14	05/03/14	01/04/14	07/05/14	04/06/14	01/07/14	05/08/14	02/09/14	08/10/14	03/11/14
Determinand	Units																									
Water Level																										
Water level to top of casing	m	0.99	0.67	0.71	0.87	1.27	1.66	1.52	1.68	1.48	0.85	1.03	1.09	0.39	0.98	0.61	0.58	0.74	1.35	1.11	1.33	1.44	0.87	0.76	0.47	0.75
Borehole depth to top of casing	m	2.87	2.87	2.87	2.87	2.84	2.87	2.86	2.87	2.84	2.87	2.88	2.87	2.89	2.84	2.87	2.87	2.87	2.88	2.86	2.87	2.87	2.87	2.87	2.76	2.87
Top of casing relative to Ordnance Datum Level	m	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27	47.27
Water level relative to Ordnance Datum	m	46.28	46.60	46.56	46.40	46.00	45.61	45.75	45.59	45.79	46.42	46.24	46.18	46.88	46.29	46.66	46.69	46.53	45.92	46.16	45.94	45.83	46.40	46.51	46.80	46.52
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m	44.40	44.40	44.40	44.40	44.43	44.40	44.41	44.40	44.43	44.40	44.39	44.40	44.38	44.43	44.40	44.40	44.40	44.39	44.41	44.40	44.40	44.40	44.40	44.51	44.40
Gas Concentrations																										
Date monitored	-	08/11/12	10/12/12	29/01/13	06/02/13	11/03/13	16/04/13	01/05/13	05/06/13	03/07/13	05/08/13	03/09/13	01/10/13	04/11/13	04/12/13	07/01/14	03/02/14	05/03/14	01/04/14	07/05/14	04/06/14	01/07/14	05/08/14	02/09/14	08/10/14	03/11/14
Time of measurement	-	15:38	14:15	11:51	15:15	14:40	09:53	12:18	15:23	14:40	14:16	14:48	12:51	14:39	12:18	15:22	15:10	12:49	14:03	13:56	11:59	14:48	12:29	11:48	11:03	14:42
Methane	% vol	0.2	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	8.8	9.7	4.9	4.2	4.8	2.7	1.1	0.5	0.3	1.5	1.7	3.3	9.1	7.8	1.4	5.7	6.8	5.2	<0.1	0.8	1	1	4.4	3.3	8.6
Oxygen	% vol	17.4	17.6	18.1	20.2	19.4	19.9	20.1	20.9	20.3	20.3	19.7	20.1	18	18	20.7	18.5	18.8	19.2	20.4	20.5	19.7	19.9	18.4	19.5	17.8
Atmospheric Pressure	mbar	1006	1024	986	1011	1019	990	1014	1019	1002	1004	1017	1011	988	1015	983	996	1009	1009	993	1001	1016	1011	1018	988	981
Gas Pressure	mbar	0.20	0.80	-0.18	-0.15	-0.1	0.12	-0.04	0.19	0.05	-0.02	0.21	0.13	0.2	-0.02	<0.01	-0.76	<0.01	0.1	-0.28	-0.25	0.02	-0.21	-0.23	0.02	0.11
Gas Flow Rate	l/hr	0.1	-1.1	-0.2	<0.1	<0.1	-0.1	0.4	0.2	0.2	<0.1	0.1	-0.1	3.6	<0.1	<0.1	-0.9	1.2	-0.1	0.2	<0.1	1.8	<0.1	<0.1	0.1	2
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	ºC																									
Comment																									Growth of thistles/nettles becoming a problem for sampling	Thistles/ nettles dying off

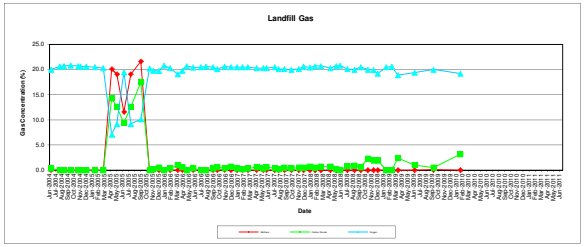
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N51**				
Type Of Sample Required	Groundwater	02/12/14	02/06/15	11/12/15	28/06/16
Determinand	Units				
Water Level					
Water level to top of casing	m	0.69	0.89	0.78	0.73
Borehole depth to top of casing	m	2.84	2.84	2.85	2.85
Top of casing relative to Ordnance Datum Level	m	47.27	47.27	47.27	47.27
Water level relative to Ordnance Datum	m	46.58	46.38	46.49	46.54
Calculated purge volume	litres				
Base of Well to Ordnance Datum	m	44.43	44.43	44.42	44.42
Gas Concentrations					
Date monitored	-	02/12/14	02/06/15	11/12/15	28/06/16
Time of measurement	-	14:52	14:10	11:13	13:36
Methane	% vol	<0.1	<0.1	0.1	<0.1
Carbon Dioxide	% vol	5	3.2	12	3.7
Oxygen	% vol	19.2	18.9	16.3	19.6
Atmospheric Pressure	mbar	1022	982	1002	1006
Gas Pressure	mbar	0.21	-0.11	0.03	<0.01
Gas Flow Rate	l/hr	<0.1	1.5	-0.9	<0.1
Insitu Liquid Determinations					
pH	pH units				
Electrical Conductivity	µS/cm				
Dissolved Oxygen	mg/l				
Temperature	℃				12.3
Comment		Thistles/nettles dying off			

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N52																		
Type Of Sample Required	None	22/06/04	04/08/04	25/08/04	27/09/04	05/11/04	17/11/04	16/12/04	27/01/05	11/03/05	22/04/05	18/05/05	22/06/05	27/07/05	15/09/05	29/10/05	17/11/05	15/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	3.58	3.57	3.57	3.57	3.57	3.56	3.55	3.56	3.55	2.30	2.42	2.27	3.09	Dry	Dry	Dry	Dry
Borehole depth to top of casing	m	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54
Top of casing relative to Ordnance Datum Level	m	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22
Water level relative to Ordnance Datum	m	60.64	60.65	60.65	60.65	60.65	60.66	60.67	60.66	60.67	61.92	61.80	61.95	61.13				
Calculated purge volume	litres																	
Base of Well to Ordnance Datum	m	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68
Gas Concentrations																			
Date monitored	-	22/06/04	04/08/04	25/08/04	27/09/2004	05/11/2004	17/11/2004	16/12/2004	27/01/2005	11/03/2005	22/04/2005	18/05/2005	22/06/2005	27/07/2005	15/09/2005	29/10/2005	17/11/2005	15/12/2005
Time of measurement	-		11:00	1505hrs	14:30	12:45	14:40	12:25	12:30	12:20	6.21pm	17.25	11.30	18:55	16:30	11:42	14:02	14:42
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.1	19.1	11.6	19.1	21.6	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	14.3	12.6	9.4	12.6	17.5	<0.1	0.2	0.5
Oxygen	% vol	20.0	20.6	20.7	20.8	20.7	20.6	20.6	20.5	20.3	7.1	9.2	19.5	9.2	10.1	20.2	19.8	19.7
Atmospheric Pressure	mbar	1003	1010	996	1008	1008	993	993	1028	1020	1030	1029	1010	1029	1005	1001	1010	1005
Gas Pressure	mbar	0.0		2.5	2.5	2.3	2	<0.1	<0.1	<0.1	0.1	0.1	1.1	0.1	0.1		1.1	1.6
Gas Flow Rate	l/hr	<0.1		2.7	2.7	2.3	2.6	1	<0.1	<0.1	0.1	0.1	0.1	0.1	1.1		<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	ºC																		
Comment						Could not Access													





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N52**																							
Type Of Sample Required	None	09/01/06	08/02/06	20/03/06	11/04/06	03/05/06	05/06/06	13/07/06	07/08/06	12/09/06	02/10/06	09/11/06	11/12/06	10/01/07	07/02/07	06/03/07	18/04/07	22/05/07	06/06/07	18/07/07	07/08/07	04/09/07	10/10/07	15/11/07
Determinand	Units																							
Water Level																								
Water level to top of casing	m	Dry	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
Borehole depth to top of casing	m	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54
Top of casing relative to Ordnance Datum Level	m	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22
Water level relative to Ordnance Datum	m																							
Calculated purge volume	litres																							
Base of Well to Ordnance Datum	m	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68
Gas Concentrations																								
Date monitored	-	09/01/2006	08/02/2006	20/03/2006	11/04/2006	03/05/2006	05/06/2006	13/07/2006	07/08/2006	12/09/2006	02/10/2006	09/11/2006	11/12/2006	10/01/2007	07/02/2007	06/03/2007	18/04/2007	22/05/2007	06/06/2007	18/07/2007	07/08/2007	04/09/2007	10/10/2007	15/11/2007
Time of measurement	-	15:34	15:53	11:40	16:22	14:08	16:20	17:22	16:11	14:34	11:36	10:42	15:38	12:48	15:50	16:05	12:40	13:30	13:38	11:30	11:15	15:08	14:15	11:50
Methane	% vol	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	<0.1	0.40	1.00	0.6	0.0	0.4	0.0	0.0	0.3	0.6	0.4	0.7	0.3	0.2	0.3	0.6	0.3	0.6	0.4	0.2	0.5	0.4	0.5
Oxygen	% vol	20.8	20.30	19.10	19.8	20.7	20.4	20.5	20.6	20.5	20.1	20.6	20.5	20.5	20.5	20.5	20.3	20.3	20.3	20.5	20.1	20.1	20.0	20.1
Atmospheric Pressure	mbar	1002	1000	1012	987	996	1013	1016	1013	1001	994	1019	989	994	997	974	1003	1006	1016	1007	999	1014	1016	1012
Gas Pressure	mbar	2.7	<0.1	0.8	1.2	0.9	0.9	2.8	3.1	2.6	1.7	0.3	<0.1	1.2	0.9	1.1	1.1	2.3	2	0.9	<0.1	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr	0.2	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																								
pH	pH units																							
Electrical Conductivity	µS/cm																							
Dissolved Oxygen	mg/l																							
Temperature	℃																							
Comment																								

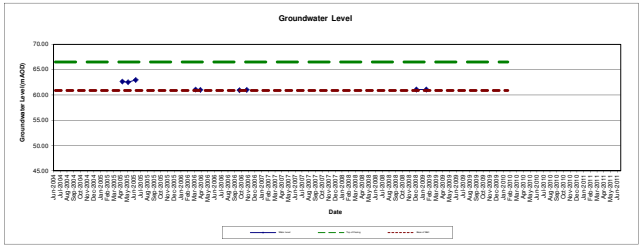
Ness Farm Landfill
Field Monitoring Sheet

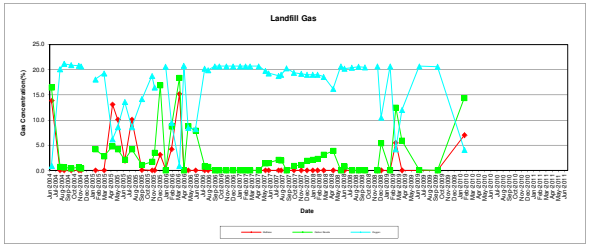
Sampling Location	**N52**																				
Type Of Sample Required	None	10/12/07	11/01/08	06/02/08	06/03/08	22/04/08	21/05/08	10/06/08	16/07/08	21/08/08	22/09/08	28/10/08	25/11/08	16/12/08	27/01/09	24/02/09	27/03/09	18/06/09	22/09/09	03/02/10	
Determinand	Units																				
Water Level																					
Water level to top of casing	m	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	
Borehole depth to top of casing	m	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	
Top of casing relative to Ordnance Datum Level	m	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	64.22	
Water level relative to Ordnance Datum	m																				
Calculated purge volume	litres																				
Base of Well to Ordnance Datum	m	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	60.68	
Gas Concentrations																					
Date monitored	-	10/12/2007	11/01/2008	06/02/2008	06/03/2008	22/04/2008	21/05/2008	10/06/2008	16/07/2008	21/08/2008	22/09/2008	28/10/2008	25/11/2008	16/12/2008	27/01/2009	24/02/2009	27/03/2009	18/06/2009	22/09/2009	03/02/2010	
Time of measurement	-	14:12	11:35	11:15	14:45	00:00	00:00	00:00	00:00	12:45	09:50	10:19	11:31	10:19	11:16	01:40	04:48	14:21	12:34	01:26	
Methane	% vol	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
Carbon Dioxide	% vol	0.5	0.7	0.5	0.7	0.7	0.2	0.0	0.8	0.9	0.6	2.3	1.9	1.9	0.0	0.0	2.4	1.0	0.5	3.2	
Oxygen	% vol	20.6	20.4	20.7	20.7	20.3	20.7	20.8	20.1	20.0	20.5	20.0	19.9	19.2	20.5	20.6	18.9	19.4	20.0	19.2	
Atmospheric Pressure	mbar	1008	987	1009	1000	1013	1008	1006	997	993	1013	998	1019	999	1007	1022	974	999	998	1013	
Gas Pressure	mbar	1.9	0.8	0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	1.60	0.02	0.02	0.01	0.05	0.06	0.05	
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	
Insitu Liquid Determinations																					
pH	pH units																				
Electrical Conductivity	µS/cm																				
Dissolved Oxygen	mg/l																				
Temperature	℃																				
Comment																					

Well not monitored

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N53																	
Type Of Sample Required	None	23/06/04	04/08/04	25/08/04	28/09/04	05/11/04	17/11/04	15/12/04	27/01/05	11/03/05	22/04/05	18/05/05	22/06/05	27/07/05	15/09/05	04/11/05	17/11/05	15/12/05
Determinand	Units																	
Water Level																		
Water level to top of casing	m	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	3.90	4.01	3.58	Dry	Dry	Dry	Dry	Dry
Borehole depth to top of casing	m	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63
Top of casing relative to Ordnance Datum Level	m	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53
Water level relative to Ordnance Datum	m										62.63	62.52	62.95					
Calculated purge volume	litres																	
Base of Well to Ordnance Datum	m	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90
Gas Concentrations																		
Date monitored	-	23/06/04	04/08/04	25/08/04	28/09/2004	05/11/2004	17/11/2004	15/12/2004	27/01/2005	11/03/2005	22/04/2005	18/05/2005	22/06/2005	27/07/2005	15/09/2005	04/11/2005	17/11/2005	15/12/2005
Time of measurement	-		11:20	1450hrs	14:30	13:00	15:00		12:40	12:25	7..46pm	18.35	1.00	19:21	18:15	13:57	13:34	16:39
Methane	% vol	13.9	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	13.1	10.1	1.9	10.1	0.1	<0.1	<0.1	3.1
Carbon Dioxide	% vol	16.5	0.7	0.6	0.4	0.6	0.4		4.2	2.8	4.8	4.2	2.1	4.2	1.1	1.7	3.5	16.9
Oxygen	% vol	0.9	20.1	21.2	20.9	20.8	20.7		18.1	19.3	6.2	8.6	13.6	8.6	14.2	18.8	16.5	
Atmospheric Pressure	mbar	992	1010	1001	1008	1008	993		1027	1020	1030	1025	1010	1025	1005	992	1010	1003
Gas Pressure	mbar	0.0		2.1	2.1	2.1	2.1		<0.1	<0.1	<0.1	1.1	0.1	1.1	0			
Gas Flow Rate	l/hr	0.3		2.7	2.6	2.6	2.6		1.4	1.6	<0.1	1.2	<0.1	1.2	<0.1			
Insitu Liquid Determinations																		
pH	pH units																	
Electrical Conductivity	µS/cm																	
Dissolved Oxygen	mg/l																	
Temperature	℃																	
Comment																No cap	No cap	No valve





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N53**																								
Type Of Sample Required	None	11/01/06	09/02/06	20/03/06	11/04/06	03/05/06	08/06/06	24/07/06	09/08/06	12/09/06	05/10/06	08/11/06	12/12/06	15/01/07	12/02/07	06/03/07	18/04/07	21/05/07	07/06/07	25/07/07	08/08/07	04/09/07	10/10/07	15/11/07	14/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	Dry	DRY	5.46	5.49	DRY	DRY	DRY	DRY	DRY	5.55	5.53	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
Borehole depth to top of casing	m	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63
Top of casing relative to Ordnance Datum Level	m	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53
Water level relative to Ordnance Datum	m			61.07	61.04						60.98	61.00													
Calculated purge volume	litres																								
Base of Well to Ordnance Datum	m	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90
Gas Concentrations																									
Date monitored	-	11/01/2006	09/02/2006	20/03/2006	11/04/2006	03/05/2006	08/06/2006	24/07/2006	09/08/2006	12/09/2006	05/10/2006	08/11/2006	12/12/2006	15/01/2007	12/02/2007	06/03/2007	18/04/2007	21/05/2007	07/06/2007	25/07/2007	08/08/2007	04/09/2007	10/10/2007	15/11/2007	14/12/2007
Time of measurement	-	10:57	16:19	12:04	16:02	15:53	13:07	14:26	16:10	13:38	14:30	15:39	13:20	12:25	13:30	16:30	14:50	11:07	11:02	15:35	14:55	11:43	12:15	10:45	12:15
Methane	% vol	0.2	4.20	15.20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	<0.1	8.70	18.40	0.0	8.8	7.9	0.8	0.7	0.0	0.0	0.0	0	0	0.0	0.0	0.0	1.4	1.5	2.1	2.0	0.0	0.9	1.1	1.9
Oxygen	% vol	20.6	9.50	0.90	20.8	8.5	8.2	20.2	19.9	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	19.8	19.3	18.8	19.0	20.3	19.4	19.2	19.0
Atmospheric Pressure	mbar	996	1010	1012	986	998	1015	1006	997	1002	1002	1001	988	974	1001	972	1002	1009	1016	994	1009	1012	1017	1012	1021
Gas Pressure	mbar		No Tap	No Tap	No Tap	No Tap	No Tap	No Tap	No Tap	No Tap	No Tap	No Tap	<0.1	<0.1	<0.1	<0.1	<0.1	2.9	0.6	0.2	<0.1	<0.1	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr		No Tap	No Tap	No Tap	No Tap	No Tap	No Tap	No Tap	No Tap	No Tap	No Tap	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment		No valve	No Tap	No Tap	No Tap	No Tap	No Tap	No Tap/ No Cover	No Tap/ No Cover	No Tap/ New cover	No Tap	No Tap													

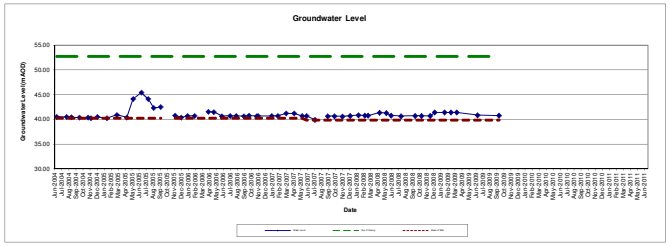
Ness Farm Landfill
Field Monitoring Sheet

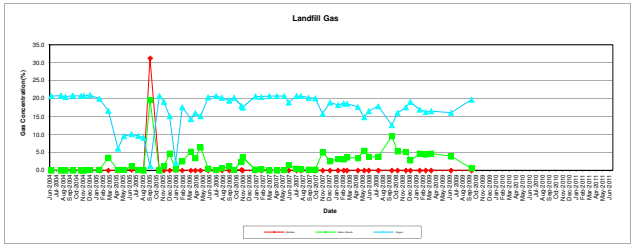
Sampling Location	**N53**																			
Type Of Sample Required	None	11/01/08	05/02/08	06/03/08	22/04/08	30/05/08	17/06/08	24/07/08	26/08/08	26/09/08	30/10/08	28/11/08	16/12/08	30/01/09	27/02/09	30/03/09	24/06/09	22/09/09	03/02/10	
Determinand	Units																			
Water Level																				
Water level to top of casing	m	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	5.45	5.45	DRY	DRY	DRY	DRY	Dry	
Borehole depth to top of casing	m	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	5.63	
Top of casing relative to Ordnance Datum Level	m	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	66.53	
Water level relative to Ordnance Datum	m												61.08	61.08						
Calculated purge volume	litres												1.44	1.44						
Base of Well to Ordnance Datum	m	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	60.90	
Gas Concentrations																				
Date monitored	-	11/01/2008	05/02/2008	06/03/2008	22/04/2008	30/05/2008	17/06/2008	24/07/2008	26/08/2008	26/09/2008	30/10/2008	28/11/2008	16/12/2008	30/01/2009	27/02/2009	30/03/2009	24/06/2009	22/09/2009	03/02/2010	
Time of measurement	-	12:40	15:45	15:45	00:00	00:00	00:00	00:00	#REF!	01:12		02:52	11:31	09:21	12:00	14:34	15:28	13:35	11:45	
Methane	% vol	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	5.5	0.0	0.0	0.0	7.0	
Carbon Dioxide	% vol	2.1	2.3	3.1	3.9	0	0.8	0.0	0.0	0.0		0.0	5.4	0.0	12.5	5.9	0.1	0.0	14.4	
Oxygen	% vol	19.0	19.0	18.6	16.2	20.7	20.2	20.4	20.6	20.5		20.7	10.5	20.7	4.2	12.0	20.7	20.6	4.1	
Atmospheric Pressure	mbar	987	996	1000	1007	1009	994	1008	995	1015		993	996	999	1009	1007	1020	997	1010	
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		-0.06	-0.76	0.03	-0.92	-1.58	0.08	0.01	0.00	
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	0.00	
Insitu Liquid Determinations																				
pH	pH units																			
Electrical Conductivity	µS/cm																			
Dissolved Oxygen	mg/l																			
Temperature	℃																			
Comment											Equipment Failure									

Well not monitored

Ness Farm Landfill
Field Monitoring Sheet

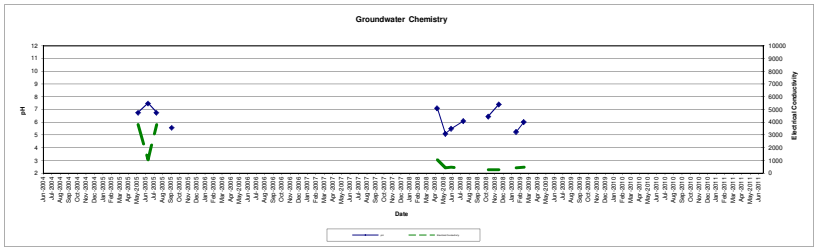
Sampling Location	N54																		
Type Of Sample Required	Groundwater	22/06/04	04/08/04	25/08/04	28/09/04	05/11/04	17/11/04	15/12/04	26/01/05	09/03/05	22/04/05	19/05/05	24/06/05	24/07/05	17/08/05	16/09/05	28/10/05	18/11/05	14/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	12.18	12.20	12.27	12.35	12.36	12.49	12.22	12.49	11.80	12.31	8.60	7.31	8.60	10.39	10.20	Dry	11.94	12.31
Borehole depth to top of casing	m	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51
Top of casing relative to Ordnance Datum Level	m	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71
Water level relative to Ordnance Datum	m	40.53	40.51	40.44	40.36	40.35	40.22	40.49	40.22	40.91	40.40	44.11	45.40	44.11	42.32	42.51		40.77	40.40
Calculated purge volume	litres	7.92																	
Base of Well to Ordnance Datum	m	40.20	40.20	40.20	40.20	40.20	40.20	40.20	40.20	40.20	40.20	40.20	40.20	40.20	40.20	40.20		40.20	40.20
Gas Concentrations																			
Date monitored	-	22/06/04	04/08/04	25/08/04	28/09/2004	05/11/2004	17/11/2004	15/12/2004	26/01/2005	09/03/2005	22/04/2005	19/05/2005	24/06/2005	24/07/2005	17/08/2005	16/09/2005	28/10/2005	18/11/2005	14/12/2005
Time of measurement	-		11:01	0710hrs	9:00	13:10	14:00	09:00	09:00	09:20	8.21am	8.20	8.00	04:48	11.00	8:41	10:04	14:20	14:02
Methane	% vol	<0.1	<0.1	0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	31.2	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	3.5	0.1	0.1	1.1	0.1	<0.1	19.6	<0.1	1.2	4.7
Oxygen	% vol	20.7	20.8	20.5	20.8	20.7	20.8	21	20	16.6	6.1	9.6	10.1	9.6	9.1	1.3	20.7	19.1	15.1
Atmospheric Pressure	mbar	1006	1010	1001	1013	1009	995	1002	1031	1022	1030	1028	1010	1028	<0.1	1006	990	1021	1021
Gas Pressure	mbar	0.0		<0.1	<0.1	<0.1	2.9	<0.1	1.6	<0.1	1.1	1.6	<0.1	1.6	<0.1	0.1		0	0.2
Gas Flow Rate	l/hr	<0.1		2.8	2.4	2.3	3.5	2	<0.1	2.2	0.1	1.1	0.1	1.1		1.2		0.1	0.2
Insitu Liquid Determinations																			
pH	pH units											6.76	7.49	6.76		5.58			
Electrical Conductivity	µS/cm											3810	1040	3810		1261			
Dissolved Oxygen	mg/l											21.4	19.9	21.4		10.2			
Temperature	ºC											9	10	9		14.1			
Comment		Insufficent to sample			Insufficent to sample			Insufficent to sample		Insufficent to sample	Insufficent to sample								Insufficent to sample





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N54																								
Type Of Sample Required	Groundwater	11/01/06	10/02/06	21/03/06	11/04/06	04/05/06	08/06/06	14/07/06	09/08/06	12/09/06	04/10/06	07/11/06	12/11/06	10/01/07	06/02/07	14/03/07	18/04/07	22/05/07	11/06/07	17/07/07	06/08/07	10/09/07	10/10/07	13/11/07	17/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	12.02	12.00	Blocked?	11.16	11.21	12.06	11.99	12.01	12.05	11.95	12.05	12.03	12.01	12.00	11.51	11.53	12.02	12.01	12.78	DRY	12.05	12.05	12.12	11.99
Borehole depth to top of casing	m	12.51	13.18	13.18	13.18	13.18	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.51	12.87	12.87	12.87	12.87	12.87	12.87	12.87	12.87
Top of casing relative to Ordnance Datum Level	m	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71
Water level relative to Ordnance Datum	m	40.69	40.71		41.55	41.50	40.65	40.72	40.70	40.66	40.76	40.66	40.68	40.70	40.71	41.20	41.18	40.69	40.70	39.93		40.66	40.66	40.59	40.72
Calculated purge volume	litres						0.00	N/A	N/A	0.00	N/A	N/A	0.00	N/A	N/A	0.00	N/A	N/A	0.00	N/A	N/A		N/A	N/A	0.00
Base of Well to Ordnance Datum	m	40.20	40.20	40.20	40.20	40.20	40.20	40.20	40.20	40.20	40.20	40.20	40.20	40.20	40.20	40.20	40.20	40.20	39.84	39.84	39.84	39.84	39.84	39.84	39.84
Gas Concentrations																									
Date monitored	-	11/01/2006	10/02/2006	21/03/2006	11/04/2006	04/05/2006	08/06/2006	14/07/2006	09/08/2006	12/09/2006	04/10/2006	07/11/2006	12/11/2006	10/01/2007	06/02/2007	14/03/2007	18/04/2007	22/05/2007	11/06/2007	17/07/2007	06/08/2007	10/09/2007	10/10/2007	13/11/2007	17/12/2007
Time of measurement	-	11:33	10:32	11:30	15:48	16:25	11:00	10:03	11:01	11:35	11:20	11:18	14:25	15:20	15:45	10:00	15:45	12:45	11:05	10:40	12:00	14:40	11:25	10:30	11:15
Methane	% vol	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	0.3	2.50	5.20	3.4	6.4	0.5	0.1	0.6	1.1	0.1	2.4	3.7	0.2	0.3	0.0	0.0	0.1	1.5	0.5	0.3	0.2	0.2	5.0	2.5
Oxygen	% vol	2.2	17.60	14.30	16.0	15.1	20.4	20.7	20.3	19.5	20.3	18.0	17.5	20.6	20.5	20.7	20.7	20.7	18.9	20.7	20.7	20.3	20.1	15.8	18.9
Atmospheric Pressure	mbar	998	1018	1010	988	1012	1015	1025	1000	1004	1001	1006	991	998	999	1019	1004	1008	1009	999	1004	1012	1019	1002	1034
Gas Pressure	mbar	0	<0.1	0.2	0.1	<0.1	<0.1	6.7	2.1	1.3	<0.1	0.4	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
Gas Flow Rate	l/hr	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	-0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	ºC																								
Comment		Insufficient to sample	Insufficient to sample. Casing Not Marked/ Broken nozzle on Tap	Insufficient to sample. Casing Not Marked/ Broken nozzle on Tap	Casing Not Marked/ Broken nozzle on Tap	Casing Not Marked/ Broken nozzle on Tap	Insufficient to sample. Casing Not Marked/ Broken nozzle on Tap	Broken nozzle on Tap	Broken nozzle on Tap	Insufficient liquid to obtain sample			Insufficient liquid to obtain sample			Insufficient liquid to obtain sample			Insufficient liquid to obtain sample			Insufficient liquid to obtain sample			Insufficient liquid to obtain sample



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N54**																	Well not monitored
Type Of Sample Required	Groundwater	22/01/08	18/02/08	04/03/08	22/04/08	21/05/08	11/06/08	24/07/08	24/09/08	21/10/08	28/11/08	18/12/08	29/01/09	26/02/09	23/03/09	22/06/09	23/09/09	
Determinand	Units																	
Water Level																		
Water level to top of casing	m	11.86	11.93	11.96	11.34	11.43	11.92	12.05	12.00	11.99	12.04	11.32	11.32	11.29	11.33	11.87	11.96	
Borehole depth to top of casing	m	12.87	12.87	12.87	12.87	12.87	12.87	12.87	12.87	12.87	12.87	12.87	12.87	12.87	12.87	12.87	12.87	
Top of casing relative to Ordnance Datum Level	m	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	52.71	
Water level relative to Ordnance Datum	m	40.85	40.78	40.75	41.37	41.28	40.79	40.66	40.71	40.72	40.67	41.39	41.39	41.42	41.38	40.84	40.75	
Calculated purge volume	litres	8.00	7.52	7.28	12.24	11.52	7.60	6.56	6.96	7.04	6.64	12.40	12.40	12.64	12.32	8.00	7.28	
Base of Well to Ordnance Datum	m	39.84	39.84	39.84	39.84	39.84	39.84	39.84	39.84	39.84	39.84	39.84	39.84	39.84	39.84	39.84	39.84	
Gas Concentrations																		
Date monitored	-	22/01/2008	18/02/2008	04/03/2008	22/04/2008	21/05/2008	11/06/2008	24/07/2008	24/09/2008	21/10/2008	28/11/2008	18/12/2008	29/01/2009	26/02/2009	23/03/2009	22/06/2009	23/09/2009	
Time of measurement	-	11:30	12:35	12:05				17:16	03:21	02:24	02:52	08:52	08:24	15:09	15:16	11:49	11:58	
Methane	% vol	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Carbon Dioxide	% vol	3.2	3.1	3.6	3.4	5.5	3.8	3.8	9.5	5.3	5.1	2.8	4.7	4.4	4.7	3.9	0.6	
Oxygen	% vol	18.2	18.7	18.6	17.7	14.8	16.5	17.9	12.6	16.1	17.6	19.1	17.0	16.3	16.5	16.1	19.7	
Atmospheric Pressure	mbar	1008	988	1021	1013	1012	1009	1008	1020	991	995	1001	1016	1011	1006	1022	1011	
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.15	-0.18	0.00	0.00	0.12	-0.09	0.02	
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	0.10	0.20	<0.1	<0.1	
Insitu Liquid Determinations																		
pH	pH units				7.1	5.1	5.5	6.1		6.46	7.4		5.24	6.03				
Electrical Conductivity	µS/cm				1040	428	481	341		268	276		429	480				
Dissolved Oxygen	mg/l									0.73			5.16	6.62				
Temperature	ºC					9	9	8		10.28	5		8.56	8.76				
Comment		Insufficient liquid to obtain sample	Insufficient liquid to obtain sample	Insufficient liquid to obtain sample														

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N55**																	
Type Of Sample Required	Leachate	22/06/04	05/08/04	25/08/04	28/09/04	05/11/04	18/11/04	16/12/04	27/01/05	10/03/05	22/04/05	19/05/05	24/06/05	24/07/05	17/08/05	16/09/05	28/10/05	18/11/05
Determinand	Units																	
Water Level																		
Water level to top of casing	m																	
Borehole depth to top of casing	m																	
Top of casing relative to Ordnance Datum Level	m																	
Water level relative to Ordnance Datum	m																	
Calculated purge volume	litres																	
Base of Well to Ordnance Datum	m																	
Gas Concentrations																		
Date monitored	-	22/06/04	05/08/04	25/08/04	28/09/2004	05/11/2004	18/11/2004	16/12/2004	27/01/2005	10/03/2005	22/04/2005	19/05/2005	24/06/2005	24/07/2005	17/08/2005	16/09/2005	28/10/2005	18/11/2005
Time of measurement	-		16:01				15:00				9.46am	9.40						
Methane	% vol																	
Carbon Dioxide	% vol																	
Oxygen	% vol																	
Atmospheric Pressure	mbar	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate
Gas Pressure	mbar	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond
Gas Flow Rate	l/hr																	
Insitu Liquid Determinations																		
pH	pH units															6.27		
Electrical Conductivity	µS/cm															1077		
Dissolved Oxygen	mg/l															7.84		
Temperature	ºC															Not recorded		
Comment		Could not access	Could not access	Could not access	Could not access	Could not Access	Could not Access	Could not Access	Could not Access	Could not Access	insufficient to sample	insufficent to sample						

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N55**																								
Type Of Sample Required	Leachate	14/12/05	11/01/06	08/02/06	23/03/06	18/04/06	08/05/06	27/06/06	18/07/06	10/08/06	12/09/06	05/10/06	09/11/06	12/07/06	11/01/07	19/02/07	08/03/07	23/04/07	15/05/07	13/06/07	23/07/07	09/08/07	06/09/07	10/10/07	12/11/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m																								
Borehole depth to top of casing	m																								
Top of casing relative to Ordnance Datum Level	m																								
Water level relative to Ordnance Datum	m																								
Calculated purge volume	litres																								
Base of Well to Ordnance Datum	m																								
Gas Concentrations																									
Date monitored	-	14/12/2005	11/01/2006	10/02/2006	23/03/2006	18/04/2006	08/05/2006	27/06/2006	18/07/2006	10/08/2006	12/09/2006	05/10/2006	09/11/2006	12/07/2006	11/01/2007	19/02/2007	08/03/2007	23/04/2007	15/05/2007	13/06/2007	23/07/2007	09/08/2007	06/09/2007	10/10/2007	12/11/2007
Time of measurement	-				10:30	12:00	13:30	10:00	17:00	15:45	11:30	16:00		10:30	12:25	14:40	14:00	14:00	11:00	11:20	11:35	11:30	16:05		15:00
Methane	% vol																								
Carbon Dioxide	% vol																								
Oxygen	% vol																								
Atmospheric Pressure	mbar	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate
Gas Pressure	mbar	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond
Gas Flow Rate	l/hr																								
				SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP
Insitu Liquid Determinations																									
pH	pH units		6.84		6.35	6.11	5.43	6.72	7.41	7.26	7.01	7.23			6.49	6.84	6.52	6.41	7.69	6.71	7.03	7.35	7.91		7.95
Electrical Conductivity	µS/cm		13700		15020	1305	1725	1161	4230	3120	2560	2250			3600	2730	4000	3462	6760	167.4	2727	4750	3570		1518
Dissolved Oxygen	mg/l		9.83		12.71	9.66	13.26	10.8	5.62	11.9	7.8	4.5			2.13	3.42	2.01	2.22	1.54	0.93	0.96	2.3	2.51		6.2
Temperature	℃		6.9		7.1	9.3	12.5	10.3	26.7	15.2	15.8	14.9			3.5	8.3	8.4	9	14.5	17	16.5	17.7	22.2		3.3
Comment				Could Not Gain Access Due to Fence Around Sump	Sample taken from tractors tank that removes leachate from sump	Sample taken from tractors tank that removes leachate from sump	Sample taken from tractors tank that removes leachate from sump	Sample taken from tractors tank that removes leachate from sump	Sample collected by Sita and left in office to collect		Sample taken from tractors tank that removes leachate from sump	Sample taken from tractors tank that removes leachate from sump	Leachate Pond	Sample taken from tractor that emties sump	Sample taken from tractor that empties sump										

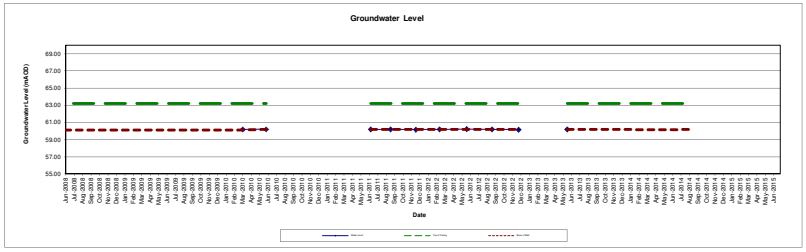
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N55												
Type Of Sample Required	Leachate	12/12/07	15/01/08	18/02/08	07/03/08	22/04/2008	21//05/2008	21/06/08	21/07/08	21/10/08	18/12/08	29/01/09	29/02/2009
Determinand	Units												
Water Level													
Water level to top of casing	m												
Borehole depth to top of casing	m												
Top of casing relative to Ordnance Datum Level	m												
Water level relative to Ordnance Datum	m												
Calculated purge volume	litres												
Base of Well to Ordnance Datum	m												
Gas Concentrations													
Date monitored	-	12/12/2007	15/01/2008	18/02/2008	07/03/2008	22/04/2008	21//05/2008	21//06/2008	24/07/2008	21/10/2008	28/11/08	29/01/09	26/02/09
Time of measurement	-	11:30	12:20	11:00	13:30								
Methane	% vol												
Carbon Dioxide	% vol												
Oxygen	% vol												
Atmospheric Pressure	mbar	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate	Leachate
Gas Pressure	mbar	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond	Pond
Gas Flow Rate	l/hr												
Insitu Liquid Determinations													
pH	pH units	7.78	7.55	7.35	6.46	7.7	7.9	8	8.1	8.55	6.96	9.74	7.34
Electrical Conductivity	µS/cm	1318	1085	1266	1013	3740	3550	3270	2560	3	492	1790	2803
Dissolved Oxygen	mg/l	4.14	5.71	4.71	5.28					10.27	4.31	5.48	6.32
Temperature	ºC	4.7	2.9	3.5	5.8	6	19	18	26	12.48	3.06	3.76	7.54
Comment													

Leachate lagoon removed as part of Phase 2 restoration works

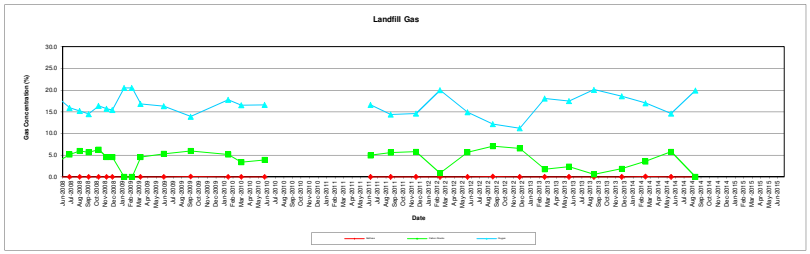
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N56																		
Type Of Sample Required	Groundwater	22/06/04	04/08/04	25/08/04	28/09/04	05/11/04	17/11/04	16/12/04	27/01/05	10/03/05	22/04/05	19/05/05	24/06/05	24/07/05	17/08/05	16/09/05	29/10/05	17/11/05	14/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	3.95	3.95	3.96	3.96	3.95	Dry	2.97	2.96	Dry	2.81	3.20	3.29	3.20	Dry	3.90	Dry	2.99	2.97
Borehole depth to top of casing	m	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08
Top of casing relative to Ordnance Datum Level	m	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21
Water level relative to Ordnance Datum	m	59.26	59.26	59.25	59.25	59.26		60.24	60.25		60.40	60.01	59.92	60.01		59.31		60.22	60.24
Calculated purge volume	litres	-20.88																	
Base of Well to Ordnance Datum	m	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13
Gas Concentrations																			
Date monitored	-	22/06/04	04/08/04	25/08/04	28/09/2004	05/11/2004	17/11/2004	16/12/2004	27/01/2005	10/03/2005	22/04/2005	19/05/2005	24/06/2005	24/07/2005	17/08/2005	16/09/2005	29/10/2005	17/11/2005	14/12/2005
Time of measurement	-		10:58	1510hrs	14:50	13:20	14:30	12:20	12:55	17:20	11.40am	10.50	11.15	12:00	11.32	9:16	11:38	13:53	11:42
Methane	% vol	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	14.1	26.1	2.6	26.1	16.1	24.6	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.3	2	1.9	1.8	2.3	4.1	2	2.1	<0.1	16.4	18.2	1.4	18.2	11.3	11.1	3.8	3.8	3.6
Oxygen	% vol	19.6	18.6	18.6	18.9	19.8	17.4	17.4	18.2	20.4	5.6	8.2	11.1	8.2	6	6.2	17.1	17.2	17.4
Atmospheric Pressure	mbar	1003	1010	996	1008	1008	993	971	1027	1006	1030	1025	1015	1025	<0.1	1006	1002	1010	1021
Gas Pressure	mbar	0.0		2.4	2.3	2.2	1.6	<0.1	<0.1	<0.1	0.1	<0.1	2.3	<0.1	<0.1	0.1		1.6	0.2
Gas Flow Rate	l/hr	<0.1		2.6	2.6	2.6	3.6	1.1	1	1.6	0.1	<0.1	1.4	<0.1		<0.1		0.2	0.2
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	ºC																		
Comment		Insufficient sample			Insufficient sample			Insufficient sample			Insufficient sample	Insufficient sample		Insufficient sample					Insufficient sample



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N56																								
Type Of Sample Required	Groundwater	09/01/06	08/02/06	20/03/06	11/04/06	03/05/06	05/06/06	13/07/06	07/08/06	12/09/06	02/10/06	09/11/06	12/11/06	10/01/07	07/02/07	12/03/07	18/04/07	22/05/07	06/06/07	18/07/07	07/08/07	04/09/07	10/10/07	15/11/07	10/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	3.02	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
Borehole depth to top of casing	m	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08
Top of casing relative to Ordnance Datum Level	m	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21
Water level relative to Ordnance Datum	m	60.19																							
Calculated purge volume	litres						N/A	N/A	N/A	0.00	N/A	N/A	N/A	N/A	N/A	DRY	N/A	N/A	N/A	N/A	N/A	N/A			
Base of Well to Ordnance Datum	m	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13
Gas Concentrations																									
Date monitored	-	09/01/2006	08/02/2006	20/03/2006	11/04/2006	03/05/2006	05/06/2006	13/07/2006	07/08/2006	12/09/2006	02/10/2006	09/11/2006	12/11/2006	10/01/2007	07/02/2007	12/03/2007	18/04/2007	22/05/2007	06/06/2007	18/07/2007	07/08/2007	04/09/2007	10/10/2007	15/11/2007	10/12/2007
Time of measurement	-	15:39	15:58	11:30	16:30	14:13	16:25	17:30	16:17	15:10	11:30	10:35	15:30	12:55	15:40	14:20	12:50	13:15	13:47	11:40	11:25	15:00	14:25	12:00	14:22
Methane	% vol	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0
Carbon Dioxide	% vol	3	2.70	1.20	3.0	3.2	4.0	4.4	3.8	4.7	2.7	4.7	5.2	3.9	3.5	3.6	4.2	2.6	4.5	3.9	5.0	5.3	5.0	6.2	5.1
Oxygen	% vol	18.2	18.20	19.20	17.6	17.5	16.9	16.7	17.1	16.6	18.2	16.3	16.4	15.9	16.2	16.5	16.9	18.0	16.8	17.5	14.8	14.2	14.3	15.8	16.2
Atmospheric Pressure	mbar	1003	1000	1013	987	996	1013	1016	1013	1002	994	1019	990	994	997	1003	1003	1006	1016	1007	999	1014	1016	1012	1008
Gas Pressure	mbar	0.7	<0.1	0.9	0.7	1.5	0.9	1.9	1.8	3.9	2.7	0.9	0.5	1.1	0.7	0.3	<0.1	3.6	0.5	0.4	<0.1	<0.1	<0.1	<0.1	0.3
Gas Flow Rate	l/hr	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment		Insufficient sample																							



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N56**																	
Type Of Sample Required	Groundwater	11/01/08	06/02/08	06/03/08	22/04/08	21/05/08	10/06/08	16/07/08	21/08/08	22/09/08	28/10/08	25/11/08	16/12/08	27/01/09	24/02/09	27/03/09	18/06/09	22/09/09
Determinand	Units																	
Water Level																		
Water level to top of casing	m	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
Borehole depth to top of casing	m	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08
Top of casing relative to Ordnance Datum Level	m	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21	63.21
Water level relative to Ordnance Datum	m																	
Calculated purge volume	litres																	
Base of Well to Ordnance Datum	m	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13
Gas Concentrations																		
Date monitored	-	11/01/2008	06/02/2008	06/03/2008	22/04/2008	21/05/2008	10/06/2008	16/07/2008	21/08/2008	22/09/2008	28/10/2008	25/11/2008	16/12/2008	27/01/2009	24/02/2009	27/03/2009	18/06/2009	22/09/2009
Time of measurement	-	11:45	11:25	14:55				00:00	12:38	11:16	11:45	12:43	11:31	12:14	15:11	14:24	14:11	12:29
Methane	% vol	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.1
Carbon Dioxide	% vol	4.2	4.7	5.1	4.4	4.4	3.8	5.2	6.0	5.7	6.3	4.6	4.6	0.0	0.0	4.6	5.3	6.0
Oxygen	% vol	16.9	16.4	16.9	17	17.5	17.9	15.9	15.2	14.5	16.4	15.7	15.4	20.5	20.5	16.8	16.3	13.9
Atmospheric Pressure	mbar	987	1008	1000	1013	1008	1006	997	993	1013	998	1019	999	1007	1022	974	1000	998
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.20	0.00	-0.14	0.03	0.03	0	-0.04	0.04
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																		
pH	pH units																	
Electrical Conductivity	µS/cm																	
Dissolved Oxygen	mg/l																	
Temperature	℃																	
Comment																		

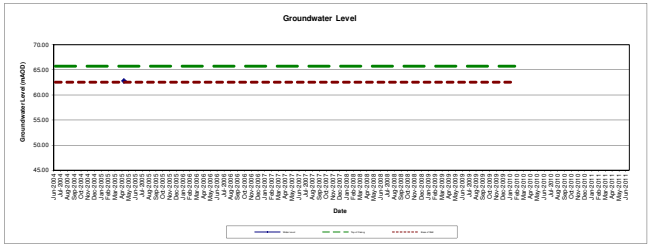
Ness Farm Landfill
Field Monitoring Sheet

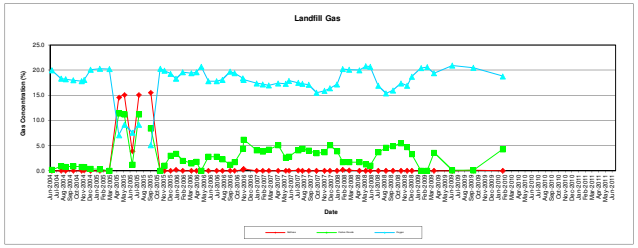
Sampling Location	**N56**				(Sept mon)	(Dec Mon)																
Type Of Sample Required	Groundwater	03/02/10	22/03/10	14/06/10	18/10/10	10/01/10	31/03/11	27/06/11	07/09/11	07/12/11	02/03/12	08/06/12	07/09/12	12/12/12	11/03/13	06/06/13	03/09/13	12/12/13	06/03/14	05/06/14	01/09/14	
Determinand	Units																					
Water Level																						
Water level to top of casing	m	dry	3.01	3.00				3.02	3.02	3.03	3.02	2.98	3.01	3.03		3.01	Dry	Dry	Dry	Dry	Dry	
Borehole depth to top of casing	m	3.08	3.02	3.02					3.04	3.03	3.03	3.02	3.03	3.03		3.03	3.01	3.02	3.04	3.04	3.03	
Top of casing relative to Ordnance Datum Level	m	63.21	63.21	63.21				63.21	63.21	63.21	63.21	63.21	63.21	63.21		63.21	63.21	63.21	63.21	63.21	63.21	
Water level relative to Ordnance Datum	m		60.20	60.21				60.19	60.19	60.18	60.19	60.23	60.20	60.18		60.20						
Calculated purge volume	litres	24.64																				
Base of Well to Ordnance Datum	m	60.13	60.13	60.19				60.19	60.19	60.18	60.18	60.19	60.18	60.18		60.18	60.20	60.19	60.17	60.17	60.18	
Gas Concentrations																						
Date monitored	-	03/02/2010	22/03/2010	14/06/2010				27/06/2011	06/09/11	07/12/12	02/03/12	08/06/12	07/09/12	12/12/12	11/03/13	06/06/13	03/09/13	12/12/13	06/03/14	05/06/14	01/09/14	
Time of measurement	-	14:09	13:20	15:22				13.42	15:04	15:10	10:02	14:26	13:30	13:44	12:00	12:30	14:47	14:29	10:01	12:49	12:33	
Methane	% vol	0	<0.1	<0.1				<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	
Carbon Dioxide	% vol	5.2	3.4	3.9				5.0	5.6	5.8	0.9	5.7	7.1	6.6	1.8	2.4	0.6	1.9	3.6	5.8	<0.1	
Oxygen	% vol	17.8	16.5	16.6				16.6	14.4	14.6	20.0	14.9	12.2	11.2	18.1	17.5	20.1	18.6	17	14.6	19.9	
Atmospheric Pressure	mbar	1013	997	1018				1007	978	994	1020	989	1012	1007	1005	1018	1014	1007	1008	1000	1012	
Gas Pressure	mbar	0.01	0.04	-0.02				-0.08	0.01	0.15	0.11	-0.07	-0.12	-0.14	0.22	-0.03	-0.1	-0.12	-0.25	-0.2	-0.08	
Gas Flow Rate	l/hr	0.0	+/-0.1	+/-0.1				<0.1	0.2	0.2	<0.1	-0.2	<0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.1	
Insitu Liquid Determinations																						
pH	pH units																					
Electrical Conductivity	µS/cm																					
Dissolved Oxygen	mg/l																					
Temperature	℃																					
Comment				BH Effectively dry	Bolt seized, no access	Bolt seized	Bolt seized															

No longer monitored (14th November 2014)

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N57																		
Type Of Sample Required	None	22/06/04	04/08/04	25/08/04	28/09/04	05/11/04	17/11/04	16/12/04	27/01/05	11/03/05	24/04/05	19/05/05	24/06/05	24/07/05	17/08/05	16/09/05	29/10/05	17/11/05	15/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	2.91	Dry	Dry	Dry		Dry	Dry	Dry	Dry
Borehole depth to top of casing	m	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19
Top of casing relative to Ordnance Datum Level	m	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69
Water level relative to Ordnance Datum	m										62.78								
Calculated purge volume	litres																		
Base of Well to Ordnance Datum	m	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50
Gas Concentrations																			
Date monitored	-	22/06/04	04/08/04	25/08/04	28/09/2004	05/11/2004	17/11/2004	16/12/2004	27/01/2005	11/03/2005	24/04/2005	19/05/2005	24/06/2005	24/07/2005	17/08/2005	16/09/2005	29/10/2005	17/11/2005	15/12/2005
Time of measurement	-		11:02	1505hrs	15:00	13:30	14:55	12:30	13:30	12:30	7.29am	11.40	1.00	09:36		10:05	11:45	14:07	14:37
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	14.6	15.1	3.9	15.1		15.5	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.2	0.9	0.8	0.9	0.8	0.7	0.4	0.3	<0.1	11.39	11.2	1.2	11.2		8.4	<0.1	1	3
Oxygen	% vol	20.0	18.3	18.2	18	17.8	18.1	20.1	20.3	20.2	7.1	9.2	7.6	9.2		5.1	20.3	19.9	19.3
Atmospheric Pressure	mbar	1003	1010	996	1008	1008	994	972	1027	1020	1030	1029	1015	1029		1006	1000	1010	1005
Gas Pressure	mbar	0.0		2.6	2.4	2.4	2.4	1.2	1.1	1.1	0.1	0.1	0.1	0.1		0.6		4.7	1.6
Gas Flow Rate	l/hr	<0.1		2.7	2.4	2.6	2.6	2.1	2.1	1.3	0.1	0.1	0.1	0.1		2.1		<0.1	0.3
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment																			





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N57**																							
Type Of Sample Required	None	09/01/06	08/02/06	20/03/06	11/04/06	03/05/06	05/06/06	13/07/06	07/08/06	12/09/06	02/10/06	09/11/06	12/11/06	10/01/07	07/02/07	06/03/07	18/04/07	22/05/07	06/06/07	18/07/07	07/08/07	04/09/07	10/10/07	15/11/07
Determinand	Units																							
Water Level																								
Water level to top of casing	m	Dry	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
Borehole depth to top of casing	m	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19
Top of casing relative to Ordnance Datum Level	m	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69
Water level relative to Ordnance Datum	m																							
Calculated purge volume	litres																							
Base of Well to Ordnance Datum	m	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50
Gas Concentrations																								
Date monitored	-	09/01/2006	08/02/2006	20/03/2006	11/04/2006	03/05/2006	05/06/2006	13/07/2006	07/08/2006	12/09/2006	02/10/2006	09/11/2006	12/11/2006	10/01/2007	07/02/2007	06/03/2007	18/04/2007	22/05/2007	06/06/2007	18/07/2007	07/08/2007	04/09/2007	10/10/2007	15/11/2007
Time of measurement	-	15:27	15:48	11:48	16:16	14:04	16:15	17:12	16:02	14:26	11:41	10:55	15:45	12:42	15:58	15:55	12:30	13:45	13:30	11:22	11:05	15:16	13:50	11:30
Methane	% vol	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	3.4	2.00	1.50	1.8	0.0	2.8	2.8	2.3	1.2	1.7	4.4	6.2	4.1	3.8	4.2	5.1	2.6	2.8	4.1	4.4	4.0	3.5	3.7
Oxygen	% vol	18.3	19.60	19.40	19.6	20.7	17.8	17.8	18.1	19.7	19.4	18.4	18.1	17.4	17.2	17.0	17.4	17.3	17.9	17.5	17.3	17.1	15.5	15.9
Atmospheric Pressure	mbar	1002	1000	1012	987	996	1013	1016	1013	1001	994	1019	990	994	997	974	1003	1005	1016	1007	999	1014	1016	1012
Gas Pressure	mbar	3.1	<0.1	1.3	1.6	2	0.2	4.5	2.1	3.2	1.7	0.6	0.4	0.5	0.4	0.2	<0.1	1.8	0.6	1.5	<0.1	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																								
pH	pH units																							
Electrical Conductivity	µS/cm																							
Dissolved Oxygen	mg/l																							
Temperature	℃																							
Comment																								

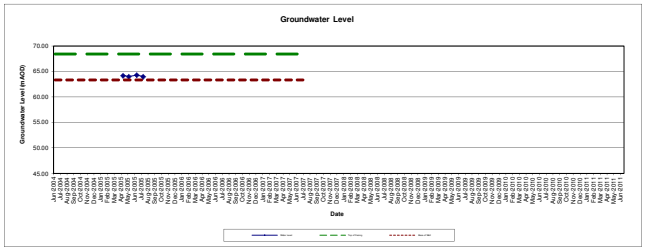
Ness Farm Landfill
Field Monitoring Sheet

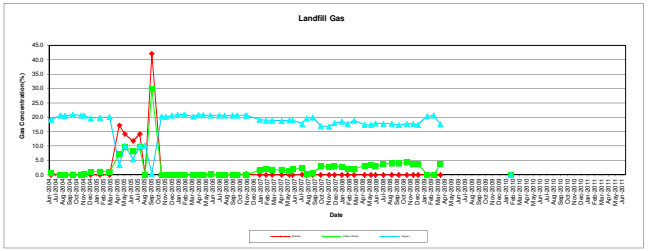
Sampling Location	**N57**																				
Type Of Sample Required	None	10/12/07	11/01/08	06/02/08	06/03/08	22/04/08	21/05/08	10/06/08	16/07/08	21/08/08	22/09/08	28/10/08	25/11/08	16/12/08	27/01/09	24/02/09	27/03/09	18/06/09	22/09/09	03/02/10	
Determinand	Units																				
Water Level																					
Water level to top of casing	m	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	
Borehole depth to top of casing	m	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	3.19	
Top of casing relative to Ordnance Datum Level	m	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	65.69	
Water level relative to Ordnance Datum	m																				
Calculated purge volume	litres																				
Base of Well to Ordnance Datum	m	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	62.50	
Gas Concentrations																					
Date monitored	-	10/12/2007	11/01/2008	06/02/2008	06/03/2008	22/04/2008	21/05/2008	10/06/2008	16/07/2008	21/08/2008	22/09/2008	28/10/2008	25/11/2008	16/12/2008	27/01/2009	24/02/2009	27/03/2009	18/06/2009	22/09/2009	03/02/2010	
Time of measurement	-	14:02	11:05	10:45	13:40				00:00	13:00	01:26	03:50	07:26	06:28	01:26	14:46	14:16	14:31	12:43	03:21	
Methane	% vol	0.0	0.0	0.2	0.1	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
Carbon Dioxide	% vol	5.1	3.9	1.7	1.7	1.7	1.3	1.0	3.7	4.6	4.9	5.5	4.7	3.3	0.0	0.0	3.6	0.1	0.1	4.3	
Oxygen	% vol	16.4	17.2	20.2	20.1	20	20.8	20.7	16.9	15.4	16.0	17.4	16.9	18.7	20.4	20.6	19.4	20.9	20.5	18.8	
Atmospheric Pressure	mbar	1008	987	1008	999	1013	1008	1006	997	993	1013	997	1019	999	1007	1022	973	998	998	1012	
Gas Pressure	mbar	0.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.29	3.25	0.01	0.01	-0.05	0.02	0.00	0.10	
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.20	<0.1	0.10	<0.1	<0.1	<0.1	0.00	
Insitu Liquid Determinations																					
pH	pH units																				
Electrical Conductivity	µS/cm																				
Dissolved Oxygen	mg/l																				
Temperature	℃																				
Comment																					

Well not monitored

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N58																		
Type Of Sample Required	None	22/06/04	04/08/04	25/08/04	28/09/04	05/11/04	17/11/04	16/12/04	27/01/05	11/03/05	24/04/05	19/05/05	24/06/05	24/07/05	17/08/05	16/09/05	29/10/05	17/11/05	15/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	4.21	4.40	4.10	4.40	Dry	Dry	Dry	Dry	Dry
Borehole depth to top of casing	m	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06
Top of casing relative to Ordnance Datum Level	m	68.41	68.41	68.41	68.41	68.41	68.41	68.41	68.41	68.41	68.41	68.41	68.41	68.41	68.41	68.41	68.41	68.41	68.41
Water level relative to Ordnance Datum	m										64.20	64.01	64.31	64.01					
Calculated purge volume	litres																		
Base of Well to Ordnance Datum	m	63.35	63.35	63.35	63.35	63.35	63.35	63.35	63.35	63.35	63.35	63.35	63.35	63.35	63.35	63.35	63.35	63.35	63.35
Gas Concentrations																			
Date monitored	-	22/06/04	04/08/04	25/08/04	28/09/2004	05/11/2004	17/11/2004	16/12/2004	27/01/2005	11/03/2005	24/04/2005	19/05/2005	24/06/2005	24/07/2005	17/08/2005	16/09/2005	29/10/2005	17/11/2005	15/12/2005
Time of measurement	-		11:15	1500hrs	15:10	09:20	14:50	12:35	13:40	12:35	8.40am	12.55	2.30	13:12	12.01	11:20	11:48	14:11	14:35
Methane	% vol	<0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	17.2	14.2	11.7	14.2	<0.1	42.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.6	<0.1	<0.1	0.1	<0.1	0.2	1	1.1	1	7.2	9.6	8.2	9.6	<0.1	29.8	<0.1	<0.1	<0.1
Oxygen	% vol	19.2	20.6	20.5	21	20.6	20.6	19.7	19.9	20.1	3.4	10.1	5.4	10.1	10.2	0.4	20.3	20.2	20.6
Atmospheric Pressure	mbar	1003	1009	996	1008	1008	993	970	1027	1020	1030	1030	1015	1030	1.1	1006	999	1009	1005
Gas Pressure	mbar	0.0		2.1	2.2	2.2	2.1	-	-	-	<0.1	<0.1	<0.1	<0.1	1.2	0.1			
Gas Flow Rate	l/hr	<0.1		2.6	2.6	2.6	2.6	-	-	-	1.1	<0.1	0.1	<0.1		<0.1			
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment									No Valve	No Valve		Insufficent to sample		Insufficent to sample					No valve





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N58**																							
Type Of Sample Required	None	09/01/06	08/02/06	20/03/06	11/04/06	03/05/06	05/06/06	13/07/06	07/08/06	12/09/06	02/10/06	09/11/06	12/11/06	10/01/07	07/02/07	06/03/07	18/04/07	22/05/07	06/06/07	18/07/07	07/08/07	04/09/07	10/10/07	15/11/07
Determinand	Units																							
Water Level																								
Water level to top of casing	m	Dry	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY			
Borehole depth to top of casing	m	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06			
Top of casing relative to Ordnance Datum Level	m	68.41	68.41	68.41	68.41	68.41	68.41	68.41	68.41	68.41	68.41	68.41	68.41	68.41	68.41	68.41	68.41	68.41	68.41	68.41	68.41			
Water level relative to Ordnance Datum	m																							
Calculated purge volume	litres																							
Base of Well to Ordnance Datum	m	63.35	63.35	63.35	63.35	63.35	63.35	63.35	63.35	63.35	63.35	63.35	63.35	63.35	63.35	63.35	63.35	63.35	63.35	63.35	63.35			
Gas Concentrations																								
Date monitored	-	09/01/2006	08/02/2006	20/03/2006	11/04/2006	03/05/2006	05/06/2006	13/07/2006	07/08/2006	12/09/2006	02/10/2006	09/11/2006	12/11/2006	10/01/2007	07/02/2007	06/03/2007	18/04/2007	22/05/2007	06/06/2007	18/07/2007	07/08/2007	04/09/2007	10/10/2007	15/11/2007
Time of measurement	-	15:24	15:46	11:56	16:13	14:00	16:10	17:07	15:56	14:22	11:48	11:02	15:51	12:30	16:10	15:40	12:20	13:53	13:20	11:07	10:57	15:26	13:35	11:20
Methane	% vol	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	<0.1	0.00	0.00	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0	1.6	2.1	1.7	1.7	1.3	1.9	2.3	0.2	0.5	3.0	2.7
Oxygen	% vol	20.9	21.00	20.30	20.8	20.8	20.6	20.7	20.6	20.7	20.7	20.7	20.7	19.2	18.9	18.9	18.8	19.0	19.0	17.8	19.7	20.0	17.0	16.8
Atmospheric Pressure	mbar	1002	999	1012	986	996	1013	1016	1013	1002	994	1018	990	993	997	974	1003	1005	1016	1007	999	1014	1016	1012
Gas Pressure	mbar												<0.1	5.2	3.2	3.5	2.6	3	3.2	1.8	<0.1	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr												<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1
Insitu Liquid Determinations																								
pH	pH units																							
Electrical Conductivity	µS/cm																							
Dissolved Oxygen	mg/l																							
Temperature	℃																							
Comment		No valve	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap										Cap Stuck	Cap Stuck	Cap Stuck

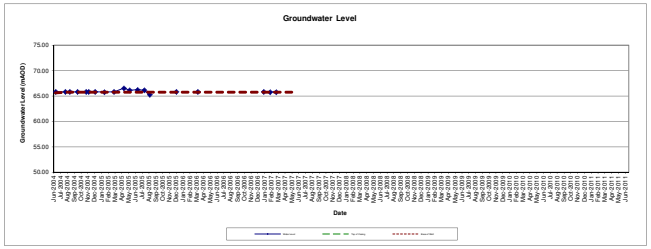
Ness Farm Landfill
Field Monitoring Sheet

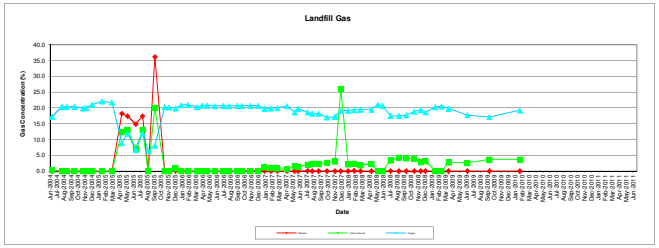
Sampling Location	**N58**																				
Type Of Sample Required	None	10/12/07	11/01/08	06/02/08	06/03/08	22/04/08	21/05/08	10/06/08	16/07/08	21/08/08	22/09/08	28/10/08	25/11/08	16/12/08	27/01/09	24/02/09	27/03/09	18/06/09	30/09/09	03/02/10	
Determinand	Units																				
Water Level																					
Water level to top of casing	m																			DRY	
Borehole depth to top of casing	m																			5.06	
Top of casing relative to Ordnance Datum Level	m																			68.41	
Water level relative to Ordnance Datum	m																				
Calculated purge volume	litres																				
Base of Well to Ordnance Datum	m																			63.35	
Gas Concentrations																					
Date monitored	-	10/12/2007	11/01/2008	06/02/2008	06/03/2008	22/04/2008	21/05/2008	10/06/2008	16/07/2008	21/08/2008	22/09/2008	28/10/2008	25/11/2008	16/12/2008	27/01/2009	24/02/2009	27/03/2009			03/02/2010	
Time of measurement	-	13:55	10:55	10:35	13:30				00:00	13:08	00:28	03:07	06:14	05:45	14:09	09:21	13:41			06:14	
Methane	% vol	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	
Carbon Dioxide	% vol	3.0	2.7	2.1	2.0	3.1	3.4	2.9	3.7	4.0	3.9	4.4	3.8	3.7	0.0	0.0	3.7			0.0	
Oxygen	% vol	18.0	18.5	17.7	18.9	17.4	17.4	17.9	17.8	17.7	17.3	17.8	17.7	17.4	20.4	20.6	17.6			0.0	
Atmospheric Pressure	mbar	1008	987	1007	999	1013	1008	1006	997	992	1012	997	1018	999	1007	1022	972			1011	
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.02	0.1	-0.01	-0.01	-0.07			0	
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	0.30	<0.1	0.1	<0.1	<0.1	<0.1			0.0	
Insitu Liquid Determinations																					
pH	pH units																				
Electrical Conductivity	µS/cm																				
Dissolved Oxygen	mg/l																				
Temperature	℃																				
Comment		Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Destroyed	Destroyed		

Well not monitored

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N59**																		
Type Of Sample Required	None	22/06/04	04/08/04	25/08/04	28/09/04	05/11/04	17/11/04	16/12/04	27/01/05	11/03/05	24/04/05	19/05/05	24/06/05	24/07/05	17/08/05	16/09/05	29/10/05	17/11/05	15/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	4.50	4.51	4.52	4.53	4.54	4.53	4.53	4.55	4.54	3.80	4.21	4.11	4.21	5.10	Dry	Dry	Dry	4.54
Borehole depth to top of casing	m	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70
Top of casing relative to Ordnance Datum Level	m	70.32	70.32	70.32	70.32	70.32	70.32	70.32	70.32	70.32	70.32	70.32	70.32	70.32	70.32	70.32	70.32	70.32	70.32
Water level relative to Ordnance Datum	m	65.82	65.81	65.80	65.79	65.78	65.79	65.79	65.77	65.78	66.52	66.11	66.21	66.11	65.22				65.78
Calculated purge volume	litres																		
Base of Well to Ordnance Datum	m	65.62	65.72	65.72	65.72	65.72	65.72	65.72	65.72	65.72	65.72	65.72	65.72	65.72	65.72	65.72	65.72	65.72	65.72
Gas Concentrations																			
Date monitored	-	22/06/04	04/08/04	25/08/04	28/09/2004	05/11/2004	17/11/2004	16/12/2004	27/01/2005	11/03/2005	24/04/2005	19/05/2005	24/06/2005	24/07/2005	17/08/2005	16/09/2005	29/10/2005	17/11/2005	15/12/2005
Time of measurement	-		11:21	1455hrs	15:20	09:15	14:55	12:40	13:50	12:40	9.50am	14.35	4.00	08:24	12.26	11:46	11:51	14:14	14:31
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	18.21	17.4	14.9	17.4	<0.1	36.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	12.4	13.1	7.1	13.1	<0.1	20.1	<0.1	<0.1	0.8
Oxygen	% vol	17.2	20.4	20.3	20.4	19.9	20.1	21.1	22.1	21.8	8.9	11.9	6.7	11.9	6.5	8.1	20.3	20.2	19.9
Atmospheric Pressure	mbar	1003	1010	997	1008	1011	993	970	1027	1020	1030	1028	1015	1028	1.3	1006	999	1009	1005
Gas Pressure	mbar	0.0		<0.1	<0.1	<0.1	<0.1	-	-	-	1.2	1.6	1.6	1.6	1.4	0			
Gas Flow Rate	l/hr	<0.1		2.7	2.6	2.4	2.4	-	-	-	0.1	1.1	1.1	1.1		<0.1			
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment		Venting							Open Valve	Open Valve		Insufficent to sample		Insufficent to sample					No valve





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N59**																						
Type Of Sample Required	None	09/01/06	08/02/06	20/03/06	11/04/06	03/05/06	05/06/06	13/07/06	07/08/06	12/09/06	02/10/06	09/11/06	12/12/06	10/01/07	07/02/07	06/03/07	18/04/07	22/05/07	06/06/07	18/07/07	07/08/07	04/09/07	10/10/07	15/11/07
Determinand	Units																						
Water Level																							
Water level to top of casing	m	Dry	DRY	4.54	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	4.54	4.55	4.55	DRY	DRY	DRY					
Borehole depth to top of casing	m	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70					
Top of casing relative to Ordnance Datum Level	m	70.32	70.32	70.32	70.32	70.32	70.32	70.32	70.32	70.32	70.32	70.32	70.32	70.32	70.32	70.32	70.32	70.32	70.32					
Water level relative to Ordnance Datum	m			65.78										65.78	65.77	65.77								
Calculated purge volume	litres																							
Base of Well to Ordnance Datum	m	65.72	65.72	65.72	65.72	65.72	65.72	65.72	65.72	65.72	65.72	65.72	65.72	65.72	65.72	65.72	65.72	65.72	65.72					
Gas Concentrations																								
Date monitored	-	09/01/2006	08/02/2006	20/03/2006	11/04/2006	03/05/2006	05/06/2006	13/07/2006	07/08/2006	12/09/2006	02/10/2006	09/11/2006	12/12/2006	10/01/2007	07/02/2007	06/03/2007	18/04/2007	22/05/2007	06/06/2007	18/07/2007	07/08/2007	04/09/2007	10/10/2007	15/11/2007
Time of measurement	-	15:18	15:44	11:58	16:10	13:54	16:00	17:00	15:50	14:15	11:55	11:06	15:58	12:20	16:20	15:30	12:10	14:00	13:00	10:55	10:45	16:00	12:40	11:10
Methane	% vol	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	<0.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	1.2	1.0	0.8	0.6	1.6	1.3	2.1	2.4	2.4	2.7	3.1
Oxygen	% vol	20.9	21.00	20.30	20.8	20.8	20.6	20.7	20.6	20.7	20.7	20.7	20.7	19.8	19.9	20.0	20.6	18.6	19.8	18.6	18.2	18.2	17.0	17.2
Atmospheric Pressure	mbar	1001	999	1011	986	996	1013	1015	1012	1001	994	1019	990	993	997	974	1003	1004	1016	1007	999	1013	1017	1012
Gas Pressure	mbar		No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	0.4	2.7	1.9	0.8	0.5	6	1.1	2.5	<0.1	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr		No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	<0.1	-0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																								
pH	pH units																							
Electrical Conductivity	µS/cm																							
Dissolved Oxygen	mg/l																							
Temperature	℃																							
Comment		No valve	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap								Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck

Ness Farm Landfill
Field Monitoring Sheet

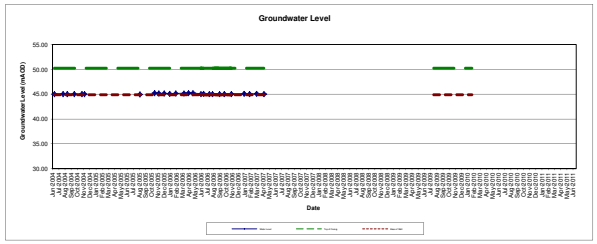
Sampling Location	**N59**																				
Type Of Sample Required	None	10/12/07	11/01/08	06/02/08	06/03/08	22/04/08	21/05/08	10/06/08	16/07/08	21/08/08	22/09/08	28/10/08	25/11/08	16/12/08	27/01/09	24/02/09	27/03/09	18/06/09	22/09/09	03/02/10	
Determinand	Units																				
Water Level																					
Water level to top of casing	m																			0.00	
Borehole depth to top of casing	m																			4.70	
Top of casing relative to Ordnance Datum Level	m																			70.32	
Water level relative to Ordnance Datum	m																				
Calculated purge volume	litres																				
Base of Well to Ordnance Datum	m																			65.62	
Gas Concentrations																					
Date monitored	-	10/12/2007	11/01/2008	06/02/2008	06/03/2008	22/04/2008	21/05/2008	10/06/2008	16/07/2008	21/08/2008	22/09/2008	28/10/2008	25/11/2008	16/12/2008	27/01/2009	24/02/2009	27/03/2009	18/06/2009	22/09/2009	03/02/2010	
Time of measurement	-	13:46	10:45	10:20	13:20				00:00	13:15	12:28	01:40	05:16	04:48	12:00	14:30	13:32	14:40	13:07	06:43	
Methane	% vol	0.0	0.0	0.1	0.0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Carbon Dioxide	% vol	26.0	2.2	2.4	1.9	2.3	0	0.0	3.4	4.3	4.1	4.0	2.9	3.2	0.0	0.0	2.8	2.6	3.7	3.7	
Oxygen	% vol	19.1	19.2	19.4	19.5	19.5	21	20.7	17.5	17.5	17.7	18.9	19.4	18.6	20.3	20.5	19.8	17.7	17.1	19.3	
Atmospheric Pressure	mbar	1007	987	1007	999	1013	1008	1006	996	992	1012	997	1019	999	1008	1023	972	998	997	1011	
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.20	-0.05	0.00	-0.06	-0.01	0.09	0.02	-0.01	0.17	
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.20	<0.1	0.10	<0.1	0.10	<0.1	<0.1	<0.1	0.00	
Insitu Liquid Determinations																					
pH	pH units																				
Electrical Conductivity	µS/cm																				
Dissolved Oxygen	mg/l																				
Temperature	℃																				
Comment		Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Blocked	Blocked		

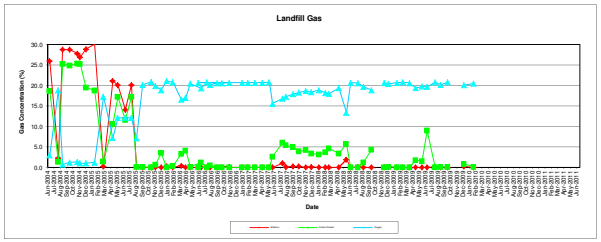
Well not monitored

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N60																		
Type Of Sample Required	Groundwater	23/06/04	04/08/04	25/08/04	28/09/04	05/11/04	17/11/04	16/12/04	27/01/05	10/03/05	24/04/05	19/05/05	24/06/05	24/07/05	17/08/05	16/09/05	28/10/05	17/11/05	14/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	5.17	5.18	5.19	5.20	5.21	5.20	Dry	Dry	Dry	Dry	Dry	Dry	Dry	5.26	Dry	5.01	5.04	5.07
Borehole depth to top of casing	m	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35
Top of casing relative to Ordnance Datum Level	m	50.23	50.23	50.23	50.23	50.23	50.23	50.23	50.23	50.23	50.23	50.23	50.23	50.23	50.23	50.23	50.23	50.23	50.23
Water level relative to Ordnance Datum	m	45.06	45.05	45.04	45.03	45.02	45.03								44.97		45.22	45.19	45.16
Calculated purge volume	litres	4.32																	
Base of Well to Ordnance Datum	m	44.88	44.88	44.88	44.88	44.88	44.88	44.88	44.88	44.88	44.88	44.88	44.88	44.88	44.88	44.88	44.88	44.88	44.88
Gas Concentrations																			
Date monitored	-	23/06/04	04/08/04	25/08/04	28/09/2004	05/11/2004	17/11/2004	16/12/2004	27/01/2005	10/03/2005	24/04/2005	19/05/2005	24/06/2005	24/07/2005	17/08/2005	16/09/2005	28/10/2005	17/11/2005	14/12/2005
Time of measurement	-		11:25	0715hrs	15:40	13:40	14:10	13:40	14:00	11:10	10.41am	15.39	5.15	09:21	1.00	16:00	15:15	12:50	11:29
Methane	% vol	26.0	2.3	28.8	28.8	27.8	26.9	28.9	30.1	0.2	21.1	20.1	14.1	20.1	0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	18.6	1.3	25.3	24.9	25.4	25.3	19.5	18.8	1.4	10.6	17.2	11.6	17.2	0.1	0.1	<0.1	0.6	3.5
Oxygen	% vol	3.0	18.9	0.7	1.2	1.3	1	1	1.2	17.3	7.2	12.1	12.1	12.1	7.1	20.2	20.9	19.9	18.9
Atmospheric Pressure	mbar	994	1011	1001	1008	1011	995	971	1027	1013	1030	1010	1015	1010	1.9	1006	990	1011	1024
Gas Pressure	mbar	0.2		<0.1	1	1	1.2	<0.1	<0.1	0.5	1.3	1.2	0.1	1.2	0.1	1.2		4.2	3.7
Gas Flow Rate	l/hr	0.8		2.6	2.7	2.6	2.7	1.3	<0.1	1.2	1.1	1.1	0.1	1.1		0.1		<0.1	0.3
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment		Insufficient sample			Insufficent to sample						Insufficent to sample								Insufficent to sample

Ground Level - 50.265m AOD
Cover Level - 49.589m AOD





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N60**																							
Type Of Sample Required	Groundwater	10/01/06	09/02/06	22/03/06	12/04/06	05/05/06	26/06/06	24/07/06	09/08/06	12/09/06	05/10/06	09/11/06	12/06/06	11/01/07	07/02/07	14/03/07	18/04/07	21/05/07	06/06/07	24/07/07	10/08/07	13/09/07	12/10/07	15/11/07
Determinand	Units																							
Water Level																								
Water level to top of casing	m	5.11	5.06	5.05	4.99	4.99	5.14	5.18	5.16	5.21	5.19	5.19	5.17	5.15	5.17	5.14	5.16							
Borehole depth to top of casing	m	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35							
Top of casing relative to Ordnance Datum Level	m	50.23	50.23	50.23	50.23	50.23	50.23	50.23	50.23	50.23	50.23	50.23	50.23	50.23	50.23	50.23	50.23							
Water level relative to Ordnance Datum	m	45.12	45.17	45.18	45.24	45.24	45.09	45.05	45.07	45.02	45.04	45.04	45.06	45.08	45.06	45.09	45.07							
Calculated purge volume	litres																							
Base of Well to Ordnance Datum	m	44.88	44.88	44.88	44.88	44.88	44.88	44.88	44.88	44.88	44.88	44.88	44.88	44.88	44.88	44.88	44.88							
Gas Concentrations																								
Date monitored	-	10/01/2006	09/02/2006	22/03/2006	12/04/2006	05/05/2006	26/06/2006	24/07/2006	09/08/2006	12/09/2006	05/10/2006	09/11/2006	12/06/2006	11/01/2007	07/02/2007	14/03/2007	18/04/2007	21/05/2007	06/06/2007	24/07/2007	10/08/2007	13/09/2007	12/10/2007	15/11/2007
Time of measurement	-	15:07	14:32	10:41	12:39	13:35	11:35	10:10	14:52	15:27	13:46	14:30	11:15	16:10	14:28	16:00	15:30	16:00	15:20	14:34	14:58	12:35	11:10	12:35
Methane	% vol	0.2	0.00	0.40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0	0	0.0	0.0	0.0	0.0	0.0	1.0	0.1	0.2	0.2	0.0
Carbon Dioxide	% vol	<0.1	0.30	3.30	4.1	0.1	1.2	0.0	0.5	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	2.6	6.0	5.4	4.9	3.9	4.2
Oxygen	% vol	21.1	20.80	16.60	17.0	20.5	19.3	20.8	20.2	20.6	20.6	20.7	20.7	20.7	20.7	20.7	20.7	20.8	15.6	16.8	17.3	17.9	18.3	18.7
Atmospheric Pressure	mbar	990	1012	1009	999	1010	1010	1010	998	1003	1009	1023	982	975	999	1018	1004	1008	1017	997	1007	1014	1007	1014
Gas Pressure	mbar	0.7	0.4	0.2	0.1	0.5	<0.1	2.5	<0.1	4.4	2.1	3.2	2.7	1.8	1.8	1.4	0.9	1.2	1.2	<0.1	<0.1	Cap	<0.1	<0.1
Gas Flow Rate	l/hr	0.3	0.2	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.1	<0.1	<0.1	<0.1	Stuck	<0.1	<0.1
Insitu Liquid Determinations																								
pH	pH units																							
Electrical Conductivity	µS/cm																							
Dissolved Oxygen	mg/l																							
Temperature	℃																							
Comment		Insufficent to sample		Insufficient liquid to obtain sample			Insufficient liquid to obtain sample			Insufficient liquid to obtain sample			Insufficient liquid to obtain sample			Insufficient liquid to obtain sample		Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck

Ground Level - 50.265m AOD
Cover Level - 49.589m AOD

Ness Farm Landfill
Field Monitoring Sheet

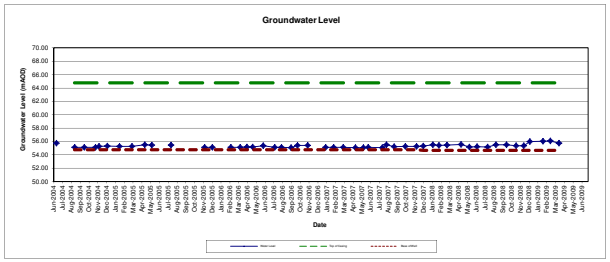
Sampling Location	**N60**																									
Type Of Sample Required	Groundwater	11/12/07	17/01/08	17/02/08	04/03/08	22/04/08	28/05/08	18/06/08	23/07/08	19/08/08	26/09/08	28/10/08	28/11/08	18/12/08	28/01/09	26/02/09	30/03/09	28/04/09	29/05/09	23/06/09	31/07/09	27/08/09	30/09/09	30/11/09	18/12/09	02/02/10	
Determinand	Units																									
Water Level																										
Water level to top of casing	m																				DRY	DRY	DRY	DRY	DRY	DRY
Borehole depth to top of casing	m																				5.35	5.35	5.35	5.35	5.35	5.35
Top of casing relative to Ordnance Datum Level	m																				50.23	50.23	50.23	50.23	50.23	50.23
Water level relative to Ordnance Datum	m																									
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m																				44.88	44.88	44.88	44.88	44.88	44.88
Gas Concentrations																										
Date monitored	-	11/12/2007	17/01/2008	17/02/2008	04/03/2008	22/04/2008	28/05/2008	18/06/2008	23/07/2008	19/08/2008	26/09/2008	28/10/2008	28/11/2008	18/12/2008	28/01/2009	26/02/2009	30/03/2009	28/04/2009	29/05/2009	23/06/2009	31/07/2009	27/08/2009	30/09/2009		18/12/2009	02/02/2010	
Time of measurement	-	12:40	11:50	11:45	16:10				00:00	15:35	10:48		10:33	12:57	01:12	11:42	13:29	15:40	14:41	13:52		10:36	11:56		14:15	10:48	
Methane	% vol	0.1	0.0	0.0	0.0	0	1.9	0.0	0.1	0.0	0.0		0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0		0.2	0.0	
Carbon Dioxide	% vol	3.4	3.1	3.7	4.6	3.4	5.7	0.0	0.0	1.2	4.3		0.0	0.1	0.0	0.0	0.0	1.7	1.5	9.0	0.0	0.1	0.1		0.8	0.1	
Oxygen	% vol	18.4	18.9	18.2	18.0	19.4	13.4	20.7	20.6	19.7	18.9		20.7	20.4	20.7	20.8	20.6	19.4	19.8	19.7	20.8	20.2	20.8		20.1	20.5	
Atmospheric Pressure	mbar	1023	982	980	1022	1011	1002	990	1008	981	1016		996	999	1013	1011	1007	1008	1025	1024	1008	1002	1012		1018	1003	
Gas Pressure	mbar	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		0.00	0.00	0.00	0.02	0.00	0.04	0.01	0.01	0.02	-0.09	0.03		0.06	0.03	
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		0.00	0.00	0.00	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	0.00	
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	℃																									
Comment		Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Stuck	Cap Damaged				Gas analysis lost			

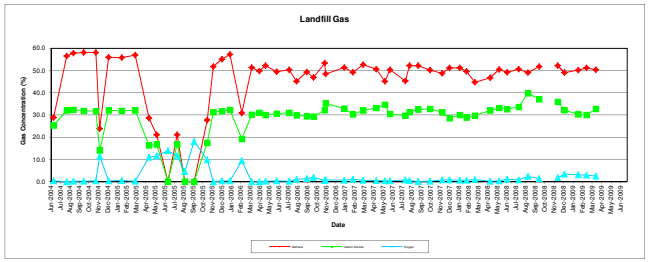
Well not monitored

Ground Level - 50.265m AOD
Cover Level - 49.589m AOD

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N61																		
Type Of Sample Required	Leachate	23/06/04	04/08/04	25/08/04	27/09/04	05/11/04	17/11/04	16/12/04	27/01/05	11/03/05	24/04/05	19/05/05	24/06/05	24/07/05	17/08/05	16/09/05	28/10/05	17/11/05	14/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	9.05		9.64	9.64	9.63	9.53	9.48	9.50	9.50	9.26	9.31	Dry	9.31	Dry	Dry	Dry	9.65	9.65
Borehole depth to top of casing	m	10.09		10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09
Top of casing relative to Ordnance Datum Level	m	64.77		64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77
Water level relative to Ordnance Datum	m	55.72		55.13	55.13	55.14	55.24	55.29	55.27	55.27	55.51	55.46		55.46				55.12	55.12
Calculated purge volume	litres	24.96																	
Base of Well to Ordnance Datum	m	54.77		54.77	54.77	54.77	54.77	54.77	54.77	54.77	54.77	54.77	54.77	54.77	54.77	54.77	54.77	54.77	54.77
Gas Concentrations																			
Date monitored	-	23/06/04	04/08/04	25/08/04	27/09/2004	05/11/2004	17/11/2004	16/12/2004	27/01/2005	11/03/2005	24/04/2005	19/05/2005	24/06/2005	24/07/2005	17/08/2005	16/09/2005	28/10/2005	17/11/2005	14/12/2005
Time of measurement	-		10:15	1515hrs	17:00	09:50	14:20	11:40	14:20	12:45	12.50pm	16.50	6.45	12:00	1.22	15:30	11:54	11:54	11:12
Methane	% vol	28.9	56.5	57.8	58.1	58.1	23.9	56	55.8	56.9	28.6	21.2	0.1	21.2	0.1	0.1	27.7	51.8	55.1
Carbon Dioxide	% vol	25.3	32.1	32.3	31.9	31.8	14.1	32.1	31.9	32.1	16.4	16.8	0.1	16.8	0.1	<0.1	17.5	31.3	31.8
Oxygen	% vol	0.5	<0.1	0.3	0.3	0.4	11.5	0.4	0.6	0.3	11.1	11.6	13.9	11.6	4.6	18.1	9.9	<0.1	0.5
Atmospheric Pressure	mbar	992	1010	1002	1010	1010	993	972	1027	1020	1030	1029	1015	1029	<0.1	1006	988	1010	1023
Gas Pressure	mbar	0.2	<0.1	0.8	1	1.2	1.3	<0.1	<0.1	<0.1	0.1	1.2	0.1	1.2	<0.1	0.4		1	3.3
Gas Flow Rate	l/hr	0.5		2.8	2.6	2.7	3.7	1.1	0.8	1.2	0.1	1.1	1.1	1.1		1.2		<0.1	0.2
Insitu Liquid Determinations																			
pH	pH units	6.71																	
Electrical Conductivity	µS/cm	3210																	
Dissolved Oxygen	mg/l	3.55																	
Temperature	℃	12.1																	
Comment			Unable to unscrew valve housing	Insufficent to sample	Insufficent to sample	Insufficent to sample	Insufficent to sample	Insufficent to sample	Insufficent to sample	Insufficent to sample	Insufficent to sample	Insufficent to sample		Insufficent to sample				Insufficent to sample	Insufficent to sample





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N61**																							
Type Of Sample Required	Leachate	09/01/06	16/02/06	20/03/06	13/04/06	03/05/06	08/06/06	18/07/06	10/08/06	12/09/06	04/10/06	09/11/06	12/11/06	10/01/07	07/02/07	12/03/07	23/04/07	21/05/07	06/06/07	25/07/07	08/08/07	04/09/07	12/10/07	20/11/07
Determinand	Units																							
Water Level																								
Water level to top of casing	m	Dry	9.65	9.65	9.59	9.59	9.40	9.67	9.67	9.69	9.36	9.38	DRY	9.65	9.65	9.65	9.69	9.72	9.66	9.69	9.27	9.56	9.53	9.51
Borehole depth to top of casing	m	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09
Top of casing relative to Ordnance Datum Level	m	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77
Water level relative to Ordnance Datum	m		55.12	55.12	55.18	55.18	55.37	55.10	55.10	55.08	55.41	55.39		55.12	55.12	55.12	55.08	55.05	55.11	55.08	55.50	55.21	55.24	55.26
Calculated purge volume	litres																							
Base of Well to Ordnance Datum	m	54.77	54.77	54.77	54.77	54.77	54.77	54.77	54.77	54.77	54.77	54.77	54.77	54.77	54.77	54.77	54.77	54.77	54.77	54.77	54.77	54.77	54.77	54.77
Gas Concentrations																								
Date monitored	-	09/01/2006	16/02/2006	20/03/2006	13/04/2006	03/05/2006	08/06/2006	18/07/2006	10/08/2006	12/09/2006	04/10/2006	09/11/2006	12/11/2006	10/01/2007	07/02/2007	12/03/2007	23/04/2007	21/05/2007	06/06/2007	25/07/2007	08/08/2007	04/09/2007	12/10/2007	20/11/2007
Time of measurement	-	15:05	10:47	13:31	11:14	14:40	16:30	15:23	15:17	11:20	11:50	12:53	14:40	13:20	14:52	13:15	11:10	15:30	14:00	13:07	13:15	13:50	14:00	14:25
Methane	% vol	57.3	30.90	51.40	49.7	52.2	49.5	50.3	45.2	49.3	46.9	53.4	48.5	51.3	49.2	52.7	50.6	45.2	50.4	45.3	52.2	52.2	50.2	48.8
Carbon Dioxide	% vol	32.3	19.20	30.20	31.1	30.0	30.7	31.0	29.9	29.5	29.3	32.2	35.2	32.9	30.3	32.0	33.2	34.6	30.5	29.7	31.3	32.5	32.8	31.2
Oxygen	% vol	0.5	9.50	0.00	0.0	0.3	0.5	0.3	1.2	1.5	2.0	0.6	0.9	0.7	1.2	0.7	0.6	0.5	0.4	0.9	0.6	0.1	0.3	0.8
Atmospheric Pressure	mbar	1016	967	1013	983	996	1012	1011	1005	1009	997	1003	990	994	996	1004	1000	1006	1016	994	1009	1014	1006	1009
Gas Pressure	mbar	5.1	0.3	0.5	<0.1	<0.1	0.8	5.4	3.3	1.2	<0.1	1.1	0.8	0.4	0.2	1.3	0.9	0.5	1.5	0.8	0.4	0.1	<0.1	<0.1
Gas Flow Rate	l/hr	0.2	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.5	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																								
pH	pH units																							
Electrical Conductivity	µS/cm																							
Dissolved Oxygen	mg/l																							
Temperature	℃																							
Comment			Insufficient liquid to obtain sample	Insufficient liquid to obtain sample	Insufficient liquid to obtain sample	Insufficient liquid to obtain sample	Insufficient liquid to obtain sample	Insufficient liquid to obtain sample	Insufficient liquid to obtain sample	Insufficient liquid to obtain sample	Insufficient liquid to obtain sample	Insufficient liquid to obtain sample		Insufficient liquid to obtain sample		Insufficient liquid to obtain sample	Insufficient liquid to obtain sample	Insufficient liquid to purge	Insufficient liquid to purge	Insufficient liquid to purge	Insufficient liquid to purge			

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N61**																
Type Of Sample Required	Leachate	14/12/07	16/01/08	06/02/08	04/03/08	22/04/08	21/05/08	16/06/08	23/07/08	21/08/08	26/09/08	29/10/08	25/11/08	16/12/08	30/01/09	25/02/09	27/03/09
Determinand	Units																
Water Level																	
Water level to top of casing	m	9.46	9.28	9.35	9.33	9.22	9.58	9.56	9.59	9.25	9.25	9.42	9.40	8.78	8.75	8.69	9.04
Borehole depth to top of casing	m	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09	10.09
Top of casing relative to Ordnance Datum Level	m	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77	64.77
Water level relative to Ordnance Datum	m	55.31	55.49	55.42	55.44	55.55	55.19	55.21	55.18	55.52	55.52	55.35	55.37	55.99	56.02	56.08	55.73
Calculated purge volume	litres								4.00	6.72	6.72	5.36	5.52	10.48	10.72	11.20	8.40
Base of Well to Ordnance Datum	m	54.68	54.68	54.68	54.68	54.68	54.68	54.68	54.68	54.68	54.68	54.68	54.68	54.68	54.68	54.68	54.68
Gas Concentrations																	
Date monitored	-	14/12/2007	16/01/2008	06/02/2008	04/03/2008	22/04/2008	21/05/2008	16/06/2008	23/07/2008	21/08/2008	26/09/2008	29/10/2008	25/11/2008	16/12/2008	30/01/2009	25/02/2009	27/03/2009
Time of measurement	-	14:30	16:10	12:40	15:00				00:00	11:19	13:55		00:43	00:28	03:21	16:36	15:32
Methane	% vol	51.2	51.2	49.6	44.7	46.8	50.5	49.2	50.6	49.0	51.7		52.2	49.1	50.2	51.2	50.4
Carbon Dioxide	% vol	28.6	30.1	28.9	29.8	32	33.2	32.7	33.7	39.9	37.1		35.9	32.2	30.4	30.1	32.8
Oxygen	% vol	0.9	0.7	0.7	1.0	0.3	0.5	1.1	0.9	2.4	1.4		1.9	3.4	3.1	3	2.6
Atmospheric Pressure	mbar	1022	988	1009	1021	1014	1009	998	1007	994	1015		1018	998	1001	1002	975
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		0.01	1.41	0.05	0.04	0.03
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1		<0.1	0.1	<0.1	0.1	<0.1
Insitu Liquid Determinations																	
pH	pH units					7											
Electrical Conductivity	µS/cm					1470											
Dissolved Oxygen	mg/l																
Temperature	℃					12											
Comment												Equipment Failure					

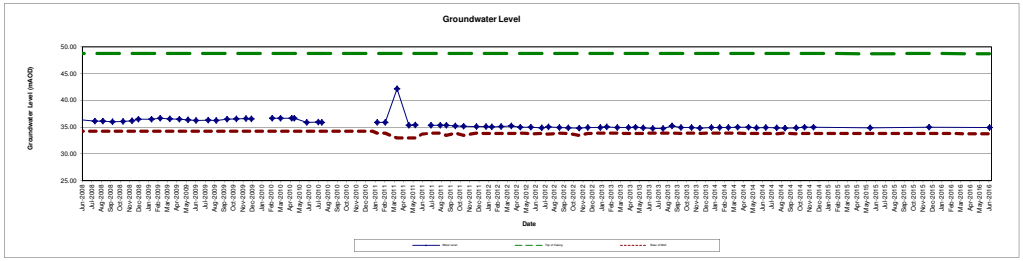
Well removed as part of Phase 1 Restoration Works

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N62a**																		
Type Of Sample Required	None	23/06/04	05/08/04	25/06/04	27/09/04	05/11/04	17/11/04	16/12/04	27/01/05	11/03/05	24/04/05	19/05/05	25/06/05	24/07/05	17/08/05	16/09/05	28/10/05	15/11/05	15/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m										9.50	Dry	Dry	Dry			12.80	5.15	5.09
Borehole depth to top of casing	m										10.00	10.00	10.00	10.00			10.00	10.00	10.00
Top of casing relative to Ordnance Datum Level	m	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80
Water level relative to Ordnance Datum	m										39.30						36.00	43.65	43.71
Calculated purge volume	litres																		
Base of Well to Ordnance Datum	m	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25
Gas Concentrations																			
Date monitored	-	23/06/04	05/08/04	25/06/04	27/09/2004	05/11/2004	17/11/2004	16/12/2004	27/01/2005	11/03/2005	24/04/2005	19/05/2005	25/06/2005	24/07/2005	17/08/2005	16/09/2005	28/10/2005	15/11/2005	15/12/2005
Time of measurement	-										2.40pm	5.40	7.45	09:36		14:23	10:55	11:34	15:39
Methane	% vol										20.40	19.40	1.90	19.40		42.30	61.30	59.10	58.30
Carbon Dioxide	% vol										18.40	12.10	1.20	12.10		30.10	37.60	36.20	36.90
Oxygen	% vol										10.20	10.10	7.20	10.10		<0.1	0.40	<0.1	<0.1
Atmospheric Pressure	mbar										1030	1028	1015	1028		1005	992	1003	1005
Gas Pressure	mbar										<0.1	1.6	<0.1	1.6		0.2		0	0
Gas Flow Rate	l/hr										<0.1	1.1	0.1	1.1		0.1		0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	ºC																		
Comment		Could not remove lock	Could not remove lock	Could not remove lock	Could not remove lock	Could not remove lock	Could not remove lock	Could not remove lock	Could not remove lock	Could not remove lock						Water level not recorded			

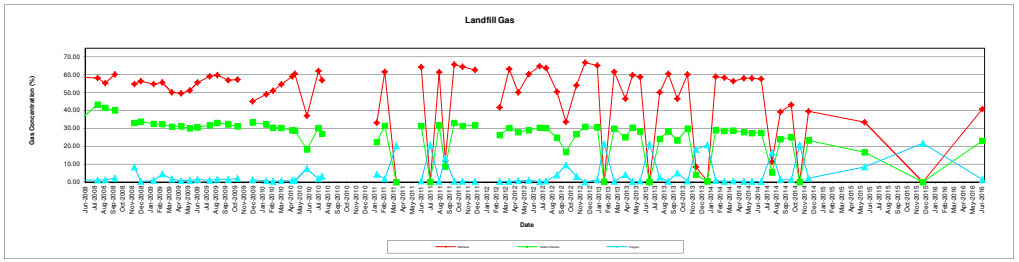
Ground Level - 48.047mAOD (March 2015)
Cover Level - 48.742m AOD (March 2015)

Ground Level - 48.013mAOD (May 2016)
Cover Level - 48.713m AOD (May 2016)



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N62a																							
Type Of Sample Required	None	09/01/06	10/02/06	22/03/06	12/04/06	05/05/06	08/06/06	14/07/06	09/08/06	12/09/06	05/10/06	10/11/06	07/12/06	15/01/07	06/02/07	13/03/07	23/04/07	16/05/07	13/06/07	24/07/07	13/08/07	10/09/07	11/10/07	14/11/07	13/12/07
Determinand	Units																							
Water Level																								
Water level to top of casing	m	10.74	5.20	4.90	4.85	4.91	4.83	12.76	12.32	12.38	12.30	10.04	9.23	9.25	9.25	9.25	9.27	12.43	12.64	12.66	12.70	12.80	12.76	12.74	12.65
Borehole depth to top of casing	m	10.00	15.10	15.10	15.10	15.10	15.10	14.35	14.36	15.10	15.10	15.10	15.05	15.05	15.05	15.05	15.05	15.05	14.55	14.55	14.55	14.55	14.55	14.55	14.55
Top of casing relative to Ordnance Datum Level	m	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80
Water level relative to Ordnance Datum	m	38.06	43.60	43.90	43.95	43.89	43.97	36.04	36.48	36.42	36.50	38.76	39.57	39.55	39.55	39.55	39.53	36.37	36.16	36.14	36.10	36.00	36.04	36.06	36.15
Calculated purge volume	litres																	0.00	14.00	14.00	14.00	12.00	12.00	14.00	14.00
Base of Well to Ordnance Datum	m	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	33.70	33.70	33.70	33.75	34.25	34.25	34.25	34.25	34.25	34.25	34.25
Gas Concentrations																									
Date monitored	-	09/01/2006	10/02/2006	22/03/2006	12/04/2006	05/05/2006	08/06/2006	14/07/2006	09/08/2006	12/09/2006	05/10/2006	10/11/2006	07/12/2006	15/01/2007	06/02/2007	13/03/2007	23/04/2007	16/05/2007	13/06/2007	24/07/2007	13/08/2007	10/09/2007	11/10/2007	14/11/2007	13/12/2007
Time of measurement	-	11:55	12:21	15:16	11:48	15:29	12:07	16:07	15:28	13:24	15:10	11:10	13:50	12:50	14:40	14:30	11:45	13:25	12:47	15:08	13:46	12:50	14:15	11:20	14:40
Methane	% vol	66.90	63.10	60.50	59.50	57.30	60.10	61.00	60.50	59.60	28.10	63.70	60.90	57.6	56.4	52.4	50.6	57.4	58.9	59.8	56.5	59.0	57.6	58.3	52.3
Carbon Dioxide	% vol	38.30	37.00	34.40	34.20	31.20	33.30	36.40	34.90	36.20	30.10	37.60	39.20	40.2	41.4	40.3	41.2	35.5	36.1	35.9	34.8	36.4	33.4	32.8	34.2
Oxygen	% vol	0.50	0.60	0.00	0.00	0.00	0.00	0.30	0.30	0.40	1.20	1.20	0.60	1.2	0.9	0.8	0.4	0.4	0.3	0.4	0.5	0.1	0.2	0.5	0.5
Atmospheric Pressure	mbar	996	1018	1006	996	1008	1012	1022	997	998	999	1010	960	976	997	1012	1000	1000	1001	998	990	1010	1008	1007	1023
Gas Pressure	mbar	0	0.1																	-2.9	-1.3	-2.2	-1.9	-0.9	-2.5
Gas Flow Rate	l/hr	<0.1	0.3																	-0.1	-0.1	<0.1	<0.1	<0.1	-1.2
Insitu Liquid Determinations																									
pH	pH units																		7.35	7.3	7.22	7.56	7.31	7.25	7.04
Electrical Conductivity	µS/cm																		225	19280	23330	14400	12320	10240	10340
Dissolved Oxygen	mg/l																		1.35	0.81	1.34	4.55	5.1	4.95	2.85
Temperature	℃																		31.7	33.2	32.4	32.7	31.3	29.6	28.9
Comment			Broken Nozzle On Tap	Broken Nozzle On Tap	Broken Nozzle On Tap	Broken Nozzle On Tap	Broken Nozzle On Tap	Broken Nozzle On Tap/ Cannot Fit Bolt Standpipe To High	Broken Nozzle On Tap	Broken Nozzle On Tap	Broken Nozzle On Tap	Broken Nozzle On Tap	Broken Nozzle On Tap	Broken Nozzle On Tap	Broken Nozzle On Tap	Broken Nozzle On Tap	Broken Nozzle On Tap	No access through gate to borehole. Gate being repaired				Standpipe to high cover cannot close	Standpipe to high cover cannot close	Standpipe to high cover cannot close	Standpipe to high cover cannot close



Ground Level - 48.047mAOD (March 2015)
Cover Level - 48.742m AOD (March 2015)

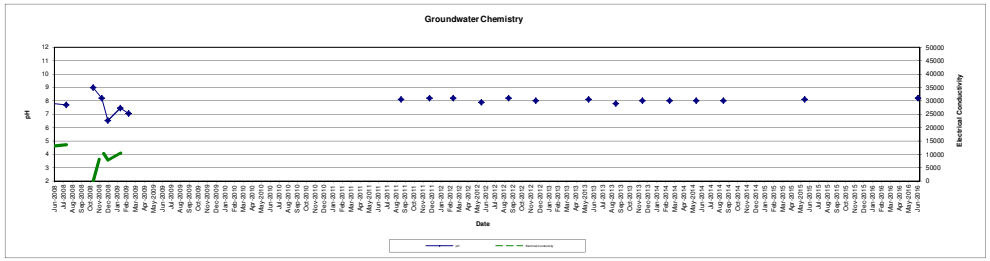
Ground Level - 48.013mAOD (May 2016)
Cover Level - 48.713m AOD (May 2016)

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N62a																									
Type Of Sample Required	None	16/01/08	14/02/08	13/03/08	22/04/08	28/05/08	18/06/08	31/07/08	26/08/08	26/09/08	30/10/08	28/11/08	19/12/08	30/01/09	27/02/09	30/03/09	30/04/09	28/05/09	22/06/09	31/07/09	26/08/09	30/09/09	30/10/09	30/11/09	18/12/09	01/02/10
Determinand	Units																									
Water Level																										
Water level to top of casing	m	10.69	11.72	11.49	12.27	12.33	12.42	12.69	12.64	12.76	12.73	12.61	12.30	12.32	12.13	12.26	12.31	12.45	12.53	12.52	12.53	12.30	12.27	12.22	12.23	DRY
Borehole depth to top of casing	m	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55
Top of casing relative to Ordnance Datum Level	m	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80
Water level relative to Ordnance Datum	m	38.11	37.08	37.31	36.53	36.47	36.38	36.11	36.16	36.04	36.07	36.19	36.50	36.48	36.67	36.54	36.49	36.35	36.27	36.28	36.27	36.50	36.53	36.58	36.57	
Calculated purge volume	litres	29.00	22.64	24.48	18.24	17.76	17.04	14.88	15.28	14.32	14.56	15.52	18.00	17.84	19.36	18.32	17.92	16.80	16.16	16.24	16.16	18.00	18.24			
Base of Well to Ordnance Datum	m	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25
Gas Concentrations																										
Date monitored	-	16/01/2008	14/02/2008	13/03/2008	22/04/2008	28/05/2008	18/06/2008	31/07/2008	26/08/2008	26/09/2008	30/10/2008	28/11/2008	19/12/2008	30/01/2009	27/02/2009	30/03/2009	30/04/2009	28/05/2009	22/06/2009	31/07/2009	26/08/2009	30/09/2009	30/10/2009		18/12/2009	01/02/2010
Time of measurement	-	11:45	14:35	14:50				00:00	16:40	03:36		12:00	00:57	03:50	10:06	15:35	16:20	16:08	17:16		15:12	14:47	14:02		12:28	02:52
Methane	% vol	51.8	50.2	52.0	56.1	58.7	58.6	58.2	55.3	60.2		54.8	56.5	54.8	55.7	50.2	49.6	51.3	55.7	59.1	59.9	56.9	57.4		45.2	49.1
Carbon Dioxide	% vol	30.8	31.9	33.5	34.5	36.2	36.7	43.4	41.6	40.2		33.2	33.8	32.5	32.4	30.9	31.1	30.1	30.6	31.7	33.2	32.2	31.2		33.3	32.3
Oxygen	% vol	0.8	0.6	0.4	0.2	0.6	1.0	1.0	1.2	2.0		8.3	0.2	0.9	4.4	1.5	0.7	0.9	1.3	0.8	1.6	1.3	1.9		1.1	0.7
Atmospheric Pressure	mbar	987	1004	994	1010	1003	990	1000	997	1019		995	1004	1001	1012	1009	1008	1018	1023	1009	993	1012	1018		1015	1012
Gas Pressure	mbar	-3.2	-2.1	-0.3	-2.9	-0.6	-1	-1.3	-2.2	-1.9		0.66	-0.22	-0.06	-0.42	0.09	0.01	0.05	-0.33	-1.27	-2.31	-1.1	-1		-0.45	-0.76
Gas Flow Rate	l/hr	-0.8	-0.9	<0.1	<0.1	<0.1	-0.1	-0.3	-0.5	<0.1		<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1		<0.1	0.1
Insitu Liquid Determinations																										
pH	pH units	7.12	7.1	7.23		7.7	7.8	7.7			8.99	8.2	6.52	7.45	7.04											
Electrical Conductivity	µS/cm	10080	10412	9641		13100	13100	13600			13.78	11400	7841	10510	8062											
Dissolved Oxygen	mg/l	3.25	3.47	4.12							0.37		0.71	0.38	0.04											
Temperature	ºC	27.6	28.3	28.6		32	30	31			29.97	25	25.2	28.48	28.82											
Comment		Standpipe to high cover cannot close	Standpipe to high cover cannot close	Standpipe to high cover cannot close							Equipment Failure												Gas analysis lost			

Ground Level - 48.047mAOD (March 2015)
Cover Level - 48.742m AOD (March 2015)

Ground Level - 48.013mAOD (May 2016)
Cover Level - 48.713m AOD (May 2016)



Fairhurst Partners
Environmental Monitoring
June 2016

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N62a**								(Sept mon)			(Dec Mon)				(April Mon)										
Type Of Sample Required	None	23/02/10	22/03/10	27/04/10	05/05/10	14/06/10	21/07/10	02/08/10	18/10/10	27/10/10	15/11/10	12/01/11	27/01/11	22/02/11	01/04/11	09/05/11	30/05/11	21/06/11	20/07/11	18/08/11	07/09/11	06/10/11	02/11/11	13/12/11	13/01/12	01/02/12
Determinand	Units																									
Water Level																										
Water level to top of casing	m	12.12	12.11	12.14	12.14	12.92	12.83	12.90					12.93	12.93	6.65	13.42	13.36	DRY	13.47	13.47	13.44	13.58	13.65	13.68	13.67	13.77
Borehole depth to top of casing	m	14.30	14.27	14.30	14.29	15.01	14.94	14.99					14.94	14.94	15.80	15.80	15.80	15.10	14.90	14.89	15.35	14.89	15.34	14.93	14.97	14.96
Top of casing relative to Ordnance Datum Level	m	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80
Water level relative to Ordnance Datum	m	36.68	36.69	36.66	36.66	35.88	35.97	35.90					35.87	35.87	42.15	35.38	35.44		35.33	35.33	35.36	35.22	35.15	35.12	35.13	35.03
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	33.86	33.86	33.00	33.00	33.00	33.70	33.90	33.91	33.45	33.91	33.46	33.87	33.83	33.84
Gas Concentrations																										
Date monitored	-	23/02/2010	22/03/2010	27/04/2010	05/05/2010	14/06/2010	21/07/2010	02/08/2010					27/01/2011	22/02/2011	01/04/11	09/05/11	30/05/11	21/06/11	20/07/11	18/08/11	07/09/11	06/10/11	02/11/11	13/12/12		
Time of measurement	-	14:50	17:50	10:55	10:29	16:13	10:43	16:33					12:38	15:35		11:09	16:36	11:25	12:27	13:12	09:10	13:17	11:46	13:22		
Methane	% vol	51.0	54.7	59.2	60.6	37.1	62.1	56.9					33.1	61.7	<0.1			64.3	<0.1	61.5	12.0	65.7	64.6	62.7		
Carbon Dioxide	% vol	30.4	30.2	28.9	28.8	18.3	30.2	27.1					22.4	31.5	<0.1			31.3	<0.1	31.6	8.6	33.1	31.4	31.7		
Oxygen	% vol	0.3	0.6	0.6	0.7	7.4	1.8	3.1					4.3	1.8	20.20			0.4	20.5	0.2	13.3	0.3	0.3	0.3		
Atmospheric Pressure	mbar	994	1000	1018	1016	1019	996	1010					1024	1011	1002			1006	1005	1015	993	989	997	963		
Gas Pressure	mbar	-1.00	0.05	0.27	1.04	+/-0.01	+/-0.01	+/-0.01										-0.08	-0.36	0.05	<0.01	<0.01	-0.05	<0.1		
Gas Flow Rate	l/hr	0.0	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1											NR	NR	-0.1	0.1	Comment	-0.2		
Insitu Liquid Determinations																										
pH	pH units																				8.1			8.2		
Electrical Conductivity	µS/cm																				20300			21500		
Dissolved Oxygen	mg/l																				0.3			<1		
Temperature	ºC					27.9															19.0			13.1		
Comment		H2S 43ppm				Bung/ tap taken. Reading taken venting	Bung & Tap Taken, Readings Taken Venting.	No Bung & Tap, Reading Taken Venting.	Buried	Buried	Monitoring visit not undertaken due to adverse weather	Buried/ Destroyed	No gas tap	No gas tap	No Tap	No cap or tap on monitoring point	No cap or bung present	No cap or tap or bung present	No bung or tap	No cap/ bung	No cap/bung/tap	No bung or gas tap present	No bung or gas tap present	No cap/bung/tap.	gas tap needs replacing	gas tap needs replacing

Ground Level - 48.047mAOD (March 2015)
Cover Level - 48.742m AOD (March 2015)

Ground Level - 48.013mAOD (May 2016)
Cover Level - 48.713m AOD (May 2016)

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N62a**																										
Type Of Sample Required	None	02/03/12	03/04/12	02/05/12	05/06/12	11/07/12	01/08/12	05/09/12	04/10/12	08/11/12	06/12/12	15/01/13	05/02/13	11/03/13	16/04/13	09/05/13	03/06/13	04/07/13	06/08/13	03/09/13	02/10/13	05/11/13	02/12/13	08/01/14	04/02/14	04/03/14
Determinand	Units																										
Water Level																											
Water level to top of casing	m	13.70	13.59	13.78	13.79	13.93	13.77	13.88	13.93	13.96	13.86	13.89	13.77	13.88	13.86	13.78	13.91	14.06	14.03	13.56	13.89	13.87	13.97	13.85	13.88	13.85
Borehole depth to top of casing	m	15.00	14.97	14.89	15.05	14.97	15.11	14.94	14.98	15.31	14.98	14.93	14.94	14.92	14.96	14.95	14.96	14.93	14.92	14.91	14.97	14.91	14.99	14.93	14.94	14.95
Top of casing relative to Ordnance Datum Level	m	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.80	48.81
Water level relative to Ordnance Datum	m	35.10	35.21	35.02	35.01	34.87	35.03	34.92	34.87	34.84	34.94	34.91	35.03	34.92	34.94	35.02	34.89	34.74	34.77	35.24	34.91	34.93	34.83	34.95	34.92	34.96
Calculated purge volume	litres																										
Base of Well to Ordnance Datum	m	33.80	33.83	33.91	33.75	33.83	33.69	33.86	33.82	33.49	33.82	33.87	33.86	33.88	33.84	33.85	33.84	33.87	33.88	33.89	33.83	33.89	33.81	33.87	33.86	33.86
Gas Concentrations																											
Date monitored	-	02/03/12	03/04/12	02/05/12	05/06/12	11/07/12	01/08/12	05/09/12	04/10/12	08/11/12	06/12/12	15/01/13	05/02/13	11/03/13	16/04/13	09/05/13	03/06/13	04/07/13	06/08/13	03/09/13	02/10/13	05/11/13	02/12/13	08/01/14	04/02/14	04/03/14
Time of measurement	-	14:03	08:22	10:22	12:52	09:46	14:47	14:08	14:54	13:04	12:36	14:39	15:45	15:15	14:57	14:22	11:53	16:35	16:27	10:19	12:16	15:35	10:01	13:48	12:33	12:22
Methane	% vol	41.8	63.3	50.2	60.3	64.9	63.8	50.5	33.6	54.1	66.8	65.3	<0.1	61.6	46.5	59.9	58.7	<0.1	50.1	60.5	46.5	60.2	8.3	0.4	58.9	58.4
Carbon Dioxide	% vol	26.3	30.3	28.0	29.0	30.4	30.3	24.8	16.8	26.8	31.0	30.6	0.1	29.8	25	30.4	28.3	<0.1	24.1	28.2	23.3	29.9	4.1	0.2	28.9	28.7
Oxygen	% vol	0.2	0.2	0.6	0.8	0.2	0.5	3.9	9.5	2.9	<0.1	1.1	21.2	0.2	4.1	0.1	0.4	21.3	2.6	0.2	5	0.4	18.3	20.7	0.9	0.3
Atmospheric Pressure	mbar	1020	1005	1025	1008	1004	999	1020	1000	1008	995	1011	981	1017	988	998	1027	1006	1007	1017	1013	981	1026	999	987	990
Gas Pressure	mbar	-0.22	-0.18	-0.09	0.24	-0.04	-0.12	<0.01	0.13	0.36	0.45	-0.03	-0.24	0.07	-0.19	-0.09	0.26	-0.1	-0.21	-0.05	0.25	0.28	0.26	-0.09	-0.01	-0.05
Gas Flow Rate	l/hr	n/r	<0.1	0.1	0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	0.1	0.1	0.9	0.5	0.2	0.2	<0.1	0.1	<0.1	<0.1	-0.1	-0.3		-0.7
Insitu Liquid Determinations																											
pH	pH units	8.2			7.9			8.2			8.0						8.1			7.8			8			8
Electrical Conductivity	µS/cm	23000			19700			30700			22300						2440			21100			22500			28000
Dissolved Oxygen	mg/l	<0.1			1.7			0.2			<1.0						0.5			0.7			1.9			4.1
Temperature	ºC	26.3			23.7			22.5			19.1			18.9			25.8			26.7			20.1			19.7
Comment		No bung or gas tap present	No bung or gas tap	No bung or gas tap present						Difficult to close cover due to height of tap	Difficult to close cover due to height of the tap.	Difficult to close cover due to height of tap.	Difficult to close cover due to height of tap	Difficult to close cover due to height of tap.												

Ground Level - 48.047mAOD (March 2015)
Cover Level - 48.742m AOD (March 2015)

Ground Level - 48.013mAOD (May 2016)
Cover Level - 48.713m AOD (May 2016)

Ness Farm Landfill
Field Monitoring Sheet

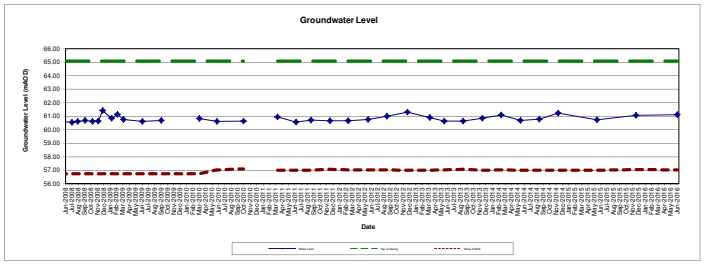
Sampling Location	**N62a**												
Type Of Sample Required	None	02/04/14	07/05/14	02/06/14	02/07/14	06/08/14	02/09/14	08/10/14	04/11/14	03/12/14	04/06/15	11/12/15	22/06/16
Determinand	Units												
Water Level													
Water level to top of casing	m	13.83	13.82	13.94	13.88	13.95	14.02	13.91	13.81	13.8	13.84	13.8	13.78
Borehole depth to top of casing	m	14.94	14.96	14.97	14.96	15.02	14.92	15.04	14.98	14.98	14.93	14.96	14.93
Top of casing relative to Ordnance Datum Level	m	48.81	48.81	48.81	48.81	48.81	48.81	48.81	48.81	48.81	48.74	48.81	48.71
Water level relative to Ordnance Datum	m	34.98	34.99	34.87	34.93	34.86	34.79	34.90	35.00	35.01	34.90	35.01	34.93
Calculated purge volume	litres												
Base of Well to Ordnance Datum	m	33.87	33.85	33.84	33.85	33.79	33.89	33.77	33.83	33.83	33.81	33.85	33.78
Gas Concentrations													
Date monitored	-	02/04/14	07/05/14	02/06/14	02/07/14	06/08/14	02/09/14	08/10/14	04/11/14	03/12/14	04/06/15	11/12/15	22/06/16
Time of measurement	-	12:17	15:14	11:57	12:47	12:20	14:04	14:19	12:42	12:27	11:54	14:10	14:16
Methane	% vol	56.4	58	58	57.7	11.2	39.3	43.2	<0.1	39.6	33.4	<0.1	40.9
Carbon Dioxide	% vol	28.8	28	27.3	27.5	5.3	23.9	25	<0.1	23.3	16.6	<0.1	23.1
Oxygen	% vol	0.5	0.2	0.2	0.1	16.6	1.4	1.2	20.7	2.1	8.4	21.6	1.4
Atmospheric Pressure	mbar	1008	994	1010	1008	1003	1018	986	990	1021	1020	1007	1009
Gas Pressure	mbar	0.26	-0.27	-0.26	0.2	<0.01	0.26	-0.07	0.05	0.04	<0.01	-0.04	<0.01
Gas Flow Rate	l/hr	0.4	0.1	0.1	0.2	<0.1	<0.1	-0.2	<0.1	-0.1	-0.1	<0.1	<0.1
Insitu Liquid Determinations													
pH	pH units			8			8				8.1		8.2
Electrical Conductivity	µS/cm			28400			39600				44200		35600
Dissolved Oxygen	mg/l										0.77		0.84
Temperature	℃			24.4			26.3				24		25.4
Comment		No hydrogen sulphide odour detected in this area. Slight wind. OK.								No hydrogen sulphide odour detected in this area.			Gas tap requires replacing

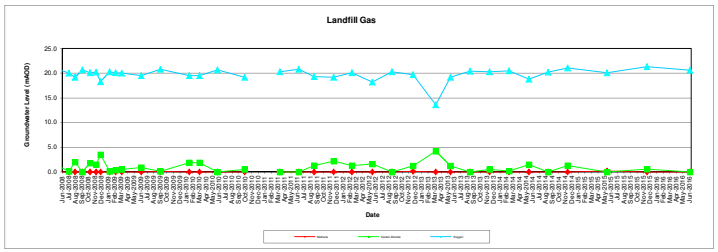
Ground Level - 48.047mAOD (March 2015)
Cover Level - 48.742m AOD (March 2015)

Ground Level - 48.013mAOD (May 2016)
Cover Level - 48.713m AOD (May 2016)

Ness Farm Landfill
Field Monitoring Sheet

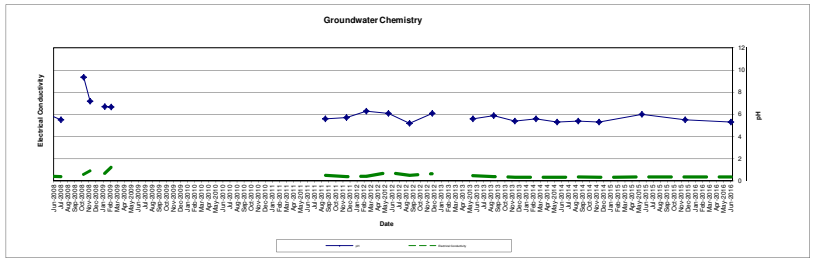
Sampling Location	N63																						
Type Of Sample Required	Groundwater	25/07/07	08/08/07	05/09/07	10/10/07	15/11/07	10/12/07	11/01/08	06/02/08	06/03/08	22/04/08	21/05/08	10/06/08	22/07/08	19/08/08	22/09/08	28/10/08	25/11/08	16/12/08	27/01/09	24/02/09	25/03/09
Determinand	Units																						
Water Level																							
Water level to top of casing	m	4.11	4.30	4.45	4.58	4.59	4.28	4.22	4.14	4.38	4.35	4.44	4.49	4.55	4.47	4.41	4.46	4.44	3.66	4.23	3.95	4.33
Borehole depth to top of casing	m	8.35	8.35	8.35	8.35	8.35	8.35	8.35	8.35	8.35	8.35	8.35	8.35	8.35	8.35	8.35	8.35	8.35	8.35	8.35	8.35	8.35
Top of casing relative to Ordnance Datum Level	m	65.09	65.09	65.09	65.09	65.09	65.09	65.09	65.09	65.09	65.09	65.09	65.09	65.09	65.09	65.09	65.09	65.09	65.09	65.09	65.09	65.09
Water level relative to Ordnance Datum	m	60.98	60.79	60.64	60.51	60.50	60.81	60.87	60.95	60.71	60.74	60.65	60.60	60.54	60.62	60.68	60.63	60.65	61.43	60.86	61.14	60.76
Calculated purge volume	litres	32.00	30.00	28.00	N/A	N/A	32.00	31.00	33.68	31.76	32.00	31.28	30.88	30.40	31.04	31.52	31.12	31.28	37.52	32.96	35.20	32.16
Base of Well to Ordnance Datum	m	56.74	56.74	56.74	56.74	56.74	56.74	56.74	56.74	56.74	56.74	56.74	56.74	56.74	56.74	56.74	56.74	56.74	56.74	56.74	56.74	56.74
Gas Concentrations																							
Date monitored	-	25/07/2007	08/08/2007	05/09/2007	10/10/2007	15/11/2007	10/12/2007	11/01/2008	06/02/2008	06/03/2008	22/04/2008	21/05/2008	10/06/2008	22/07/2008	19/08/2008	22/09/2008	28/10/2008	25/11/2008	16/12/2008	27/01/2009	24/02/2009	25/03/2009
Time of measurement	-	10:45	10:50	15:10	14:05	11:40	13:50	11:10	10:55	13:50				00:00	15:06	04:33	07:26	09:50	07:40	09:36	15:00	12:38
Methane	% vol	0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.0	0.0	0	0	0.0	0.0	0.0	0	0	0	0	0	0
Carbon Dioxide	% vol	0.7	1.8	1.4	0.2	0.7	0.2	0.3	1.4	0.5	1.5	0.8	1	0.1	2.0	0.0	1.8	1.5	3.5	0.1	0.4	0.5
Oxygen	% vol	20.3	19.3	19.1	19.7	19.0	20.6	20.2	20.2	20.7	19.9	20.7	20.7	20.0	19.2	20.7	20.1	20.2	18.3	20.3	20.1	20
Atmospheric Pressure	mbar	995	1011	1015	1016	1012	1009	987	1010	1000	1007	1008	1006	1003	979	1013	998	1019	999	1007	1022	991
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.03	0.22	-0.01	-0.01	0.21
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1
Insitu Liquid Determinations																							
pH	pH units	5.6	5.18	5.45			5.41	5.74	5.89	6.18	5.2	5.4	5.9	5.5			9.35	7.2		6.71	6.68	
Electrical Conductivity	µS/cm	590	609	346			367	485	371	410	435	306	333	317			492	756		551	1010	
Dissolved Oxygen	mg/l	2.15	2.53	9.04			9.04	7.92	8.54	9.12							5.95			5.18	7.36	
Temperature	℃	10.1	11	10.5			10.9	10.6	9.2	8.9		9	7	9			8.79	6		7.91	7.93	
Comment																							





Ness Farm Landfill
Field Monitoring Sheet

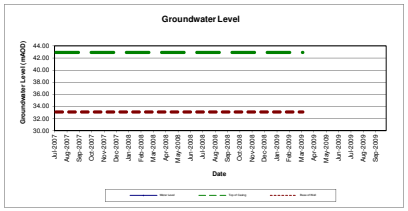
Sampling Location	N63						(Sept mon)	(Dec Mon)																			
Type Of Sample Required	Groundwater	24/06/09	22/09/09	03/02/10	22/03/10	14/06/10	19/10/10	12/01/11	31/03/11	27/06/11	07/09/11	07/12/11	02/03/12	05/06/12	04/09/12	11/12/12	27/03/13	04/06/13	02/09/13	03/12/13	03/03/14	03/06/14	01/09/14	01/12/14	03/06/15	07/12/15	22/06/16
Determinand	Units																										
Water Level																											
Water level to top of casing	m	4.47	4.40	0.00	4.27	4.48	4.45		4.14	4.53	4.37	4.42	4.43	4.32	4.10	3.78	4.19	4.45	4.44	4.24	3.99	4.39	4.31	3.86	4.36	4.01	3.97
Borehole depth to top of casing	m	8.35	8.35	8.35	8.06	8.05	8.00		8.08	8.08	8.08	8.01	8.06	8.07	8.07	8.08	8.08	8.07	8.02	8.08	8.06	8.08	8.08	8.08	8.08	8.04	8.07
Top of casing relative to Ordnance Datum Level	m	65.09	65.09	65.09	65.09	65.09	65.09		65.09	65.09	65.09	65.09	65.09	65.09	65.09	65.09	65.09	65.09	65.09	65.09	65.09	65.09	65.09	65.09	65.09	65.09	65.09
Water level relative to Ordnance Datum	m	60.62	60.69		60.82	60.61	60.64		60.95	60.56	60.72	60.67	60.66	60.77	60.99	61.31	60.90	60.64	60.65	60.85	61.10	60.70	60.78	61.23	60.73	61.08	61.12
Calculated purge volume	litres																										
Base of Well to Ordnance Datum	m	56.74	56.74	56.74	56.74	57.04	57.09		57.01	57.01	57.01	57.08	57.03	57.02	57.02	57.01	57.01	57.02	57.07	57.01	57.03	57.01	57.01	57.01	57.01	57.05	57.02
Gas Concentrations																											
Date monitored	-	24/06/2009	22/09/2009	03/02/2010	22/03/2010	14/06/2010	19/10/2010		31/03/11	27/06/11	06/09/11	07/12/12	02/03/12	05/06/12	04/09/12	11/12/12	27/03/13	04/06/13	02/09/13	03/12/13	03/03/14	03/06/14	01/09/14	01/12/14	03/06/15	07/12/15	22/06/16
Time of measurement	-	15:13	12:48	04:19	13:35	15:33	14:00		15:25	13:16	14:57	14:45	09:37	11:30	14:15	13:46	15:23	15:28	16:21	12:20	11:37	10:43	10:20	11:32	15:06	10:19	14:52
Methane	% vol	0	0.1	0	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	0.9	0.1	1.9	1.9	<0.1	0.5		<0.1	<0.1	1.3	2.2	1.3	1.6	<0.1	1.2	4.2	1.2	<0.1	0.5	0.2	1.5	<0.1	1.3	<0.1	0.6	<0.1
Oxygen	% vol	19.5	20.8	19.5	19.5	20.7	19.2		20.3	20.8	19.3	19.2	20.1	18.2	20.3	19.7	13.6	19.2	20.4	20.3	20.5	18.8	20.2	21.1	20.1	21.3	20.6
Atmospheric Pressure	mbar	1021	998	1012	997	1018	999		984	1007	977	993	1020	1006	1010	1025	1016	1024	1009	1014	975	1003	1012	1004	1010	1014	1007
Gas Pressure	mbar	0.01	0.07	0.2	0.23	0.01	-0.13		+0.11	0	0.01	0.16	0.04	0.14	0.07	0.05	0.06	<0.01	-0.07	0.31	-0.29	-0.23	<0.01	0.19	-0.17	-0.03	<0.01
Gas Flow Rate	l/hr	<0.1	<0.1	0	+/-0.1	+/-0.1	+/-0.1		0.0	0.2	0.1	0.3	<0.1	0.1	<0.1	0.2	<0.1	0.2	0.1	-0.1	0.2	<0.1	<0.1	0.2	-0.2	<0.1	0.1
Insitu Liquid Determinations																											
pH	pH units										5.6	5.7	6.3	6.1	5.2	6.1		5.6	5.9	5.4	5.6	5.3	5.4	5.3	6	5.5	5.3
Electrical Conductivity	µS/cm										405	320	335	635	425	535		400	310	270	275	280	285	270	290	300	300
Dissolved Oxygen	mg/l										9.8		9.4	8.7	8.5	10.2		8.1	9.8	11	11.7	9.8	9.7	9.3	8.79	9	9.03
Temperature	℃					8.2	8.5		8.0		10.0	8.0	8.0	8.5	10.5	7.7	7.3	9.6	11.8	9.6	8	10	11.5	9.7	9.3	8.7	9.7
Comment								No access due to ice																			

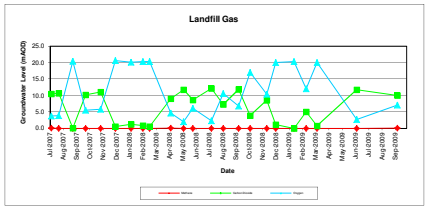


Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N64																									
Type Of Sample Required	Groundwater	23/07/07	09/08/07	10/09/07	10/10/07	13/11/07	17/12/07	22/01/08	18/02/08	04/03/08	22/04/08	21/05/08	11/06/08	24/07/08	20/08/08	24/09/08	21/10/08	28/11/08	18/12/08	29/01/09	26/02/09	23/03/09	22/06/09	23/09/09	31/03/11	
Determinand	Units																									
Water Level																										
Water level to top of casing	m	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY		DRY		
Borehole depth to top of casing	m	9.85	9.85	9.85	9.85	9.85	9.85	9.85	9.85	9.85	9.85	9.85	9.85	9.85	9.85	9.85	9.85	9.85	9.85	9.85	9.85	9.85		9.85		
Top of casing relative to Ordnance Datum Level	m	42.95	42.95	42.95	42.95	42.95	42.95	42.95	42.95	42.95	42.95	42.95	42.95	42.95	42.95	42.95	42.95	42.95	42.95	42.95	42.95	42.95		42.95		
Water level relative to Ordnance Datum	m																									
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m	33.10	33.10	33.10	33.10	33.10	33.10	33.10	33.10	33.10	33.10	33.10	33.10	33.10	33.10	33.10	33.10	33.10	33.10	33.10	33.10	33.10		33.10		
Gas Concentrations																										
Date monitored	-	23/07/2007	09/08/2007	10/09/2007	10/10/2007	13/11/2007	17/12/2007	22/01/2008	18/02/2008	04/03/2008	22/04/2008	21/05/2008	11/06/2008	24/07/2008	20/08/2008	24/09/2008	21/10/2008	28/11/2008	18/12/2008	29/01/2009	26/02/2009	23/03/2009	22/06/2009	23/09/2009		
Time of measurement	-	09:40	09:45	14:30	11:40	15:30	11:00	11:15	12:20	12:20				00:00	13:22	11:16	03:07	01:55	07:26	04:48	14:52	15:10	11:58	12:16		
Methane	% vol	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0.1		
Carbon Dioxide	% vol	10.5	10.7	0.1	10.2	11.1	0.6	1.2	0.8	0.6	9.0	11.7	8.6	12.1	7.3	11.8	3.9	8.5	1.1	0	5	0.7	11.7	10		
Oxygen	% vol	3.8	3.9	20.4	5.5	5.8	20.6	20.1	20.3	20.3	4.6	2.0	6.1	2.3	10.6	6.8	17	10.4	20	20.3	12	20	2.7	7.1		
Atmospheric Pressure	mbar	999	1016	1012	1019	1002	1036	1009	989	1022	1007	1012	1009	1009	991	1021	993	995	1002	1017	1011	1007	1023	1011		
Gas Pressure	mbar	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	-0.03	0.1	-0.02	0.31	0.11	0.11	0.11		
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1		
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	℃																									
Comment																						Blocked		Bolt Seized		

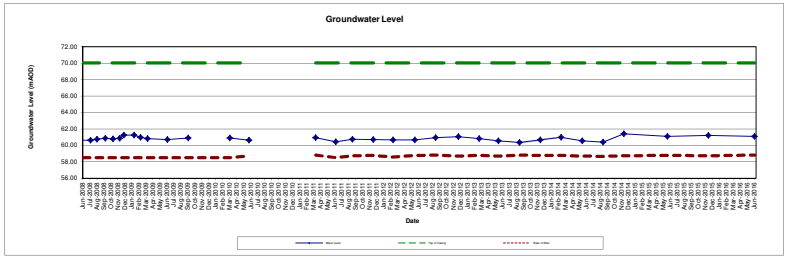
Well not monitored

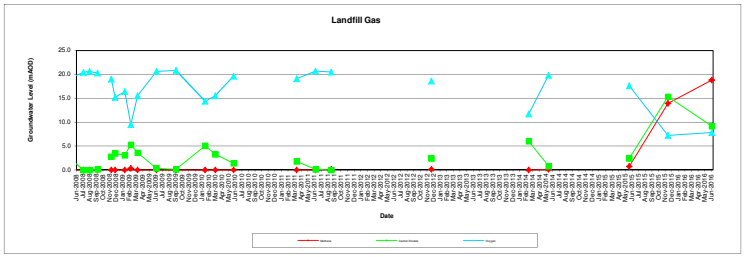




Ness Farm Landfill
Field Monitoring Sheet

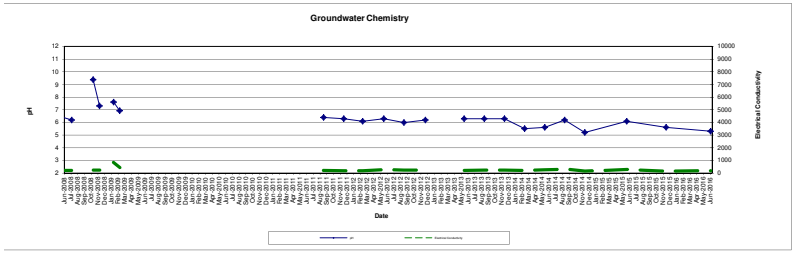
Sampling Location	N65																											(Sept mon)	
Type Of Sample Required	Groundwater	25/07/07	08/08/07	05/09/07	10/10/07	15/11/07	14/12/07	11/01/08	05/02/08	06/03/08	22/04/08	21/05/08	17/06/08	24/07/08	21/08/08	26/09/08	30/10/08	28/11/08	16/12/08	30/01/09	27/02/09	30/03/09	24/06/09	22/09/09	03/02/10	22/03/10	14/06/10	19/10/10	15/11/10
Determinand	Units																												
Water Level																													
Water level to top of casing	m	9.22	9.22	9.30	9.45	9.45	9.17	9.12	9.14	9.30	9.22	9.68	9.41	9.42	9.32	9.20	9.26	9.20	8.80	8.80	9.07	9.21	9.35	9.14	0.00	9.13	9.43		
Borehole depth to top of casing	m	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.32	11.35		
Top of casing relative to Ordnance Datum Level	m	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05		
Water level relative to Ordnance Datum	m	60.83	60.83	60.75	60.60	60.60	60.88	60.93	60.91	60.75	60.83	60.37	60.64	60.63	60.73	60.85	60.79	60.85	61.25	61.25	60.98	60.84	60.70	60.91		60.92	60.62		
Calculated purge volume	litres	16.00	15.00	15.00	N/A	N/A	16.00	16.00	19.28	18.00	18.64	14.96	17.12	17.04	17.84	18.80	18.32	18.80	22.00	22.00	19.84	18.72	17.60	19.28					
Base of Well to Ordnance Datum	m	58.50	58.50	58.50	58.50	58.50	58.50	58.50	58.50	58.50	58.50	58.50	58.50	58.50	58.50	58.50	58.50	58.50	58.50	58.50	58.50	58.50	58.50	58.50	58.50	58.50	58.70		
Gas Concentrations																													
Date monitored	-	25/07/2007	08/08/2007	05/09/2007	10/10/2007	15/11/2007	14/12/2007	11/01/2008	05/02/2008	06/03/2008	22/04/2008	21/05/2008	17/06/2008	24/07/2008	21/08/2008	26/09/2008	30/10/2008	28/11/2008	16/12/2008	30/01/2009	27/02/2009	30/03/2009	24/06/2009	22/09/2009	03/02/2010	22/03/2010	14/06/2010		
Time of measurement	-	11:30	11:40	15:45	12:25	10:55	12:25	12:00	15:25	15:15				00:00	13:58	06:00		04:19	13:12	10:19	10:36	14:41	15:31	13:23	13:40	12:40	14:51		
Methane	% vol	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0		0	0	0	0.3	0	0	0	0	<0.1	<0.1		
Carbon Dioxide	% vol	1.6	1.4	1.7	1.9	1.8	1.8	2.3	1.4	1.9	3.5	0.2	1.5	0.0	0.0	0.1		2.8	3.5	3.1	5.3	3.6	0.3	0.1	5.1	3.3	1.4		
Oxygen	% vol	19.2	18.8	18.7	18.7	19.0	17.8	17.6	17.9	17.4	15.4	20.9	19.7	20.4	20.6	20.3		19	15.2	16.4	9.5	15.5	20.6	20.8	14.4	15.5	19.6		
Atmospheric Pressure	mbar	994	1010	1014	1017	1012	1021	987	996	999	1007	1009	993	1007	992	1019		993	996	998	1009	1006	1020	997	1009	996	1017		
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		0.02	0.01	-0.01	-0.31	-0.02	0.03	-0.05	-0.15	+/-0.01	+/-0.01		
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0	+/-0.1	+/-0.1		
Insitu Liquid Determinations																													
pH	pH units	6.07	5.75	5.71			7.28	7.32	7.26	7.13	6.1	5.8	6.4	6.2			9.38	7.3		7.61	6.92								
Electrical Conductivity	µS/cm	345	291	193			285	402	423	562	334	180	208	203			245	243		833	429								
Dissolved Oxygen	mg/l	2.52	2.61	10.31			6.6	6.08	6.24	5.96							7.97			4.35	5.84								
Temperature	ºC	9.9	11.7	10.8			8.1	8	8	8.3		9	8	8			8.95	7		9.64	9.89						8.9		
Comment																	Equipment Failure					Free product thickness = 0.1						Could not unscrew cover, no access.	Monitoring visit not undertaken due to adverse weather





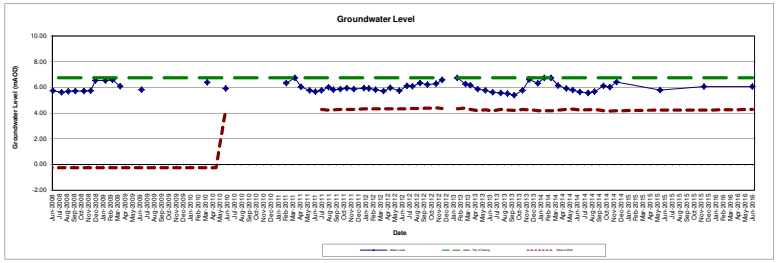
Ness Farm Landfill
Field Monitoring Sheet

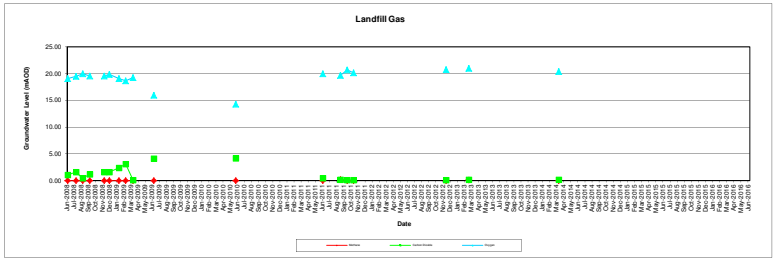
Sampling Location	N65	(Dec Mon)																			
Type Of Sample Required	Groundwater	12/01/11	31/03/11	27/06/11	07/09/11	07/12/11	02/03/12	05/06/12	04/09/12	11/12/12	12/03/13	04/06/13	03/09/13	03/12/13	03/03/14	03/06/14	01/09/14	01/12/14	08/06/15	04/12/15	22/06/16
Determinand	Units																				
Water Level																					
Water level to top of casing	m		9.11	9.60	9.32	9.36	9.38	9.38	9.10	9.00	9.24	9.48	9.71	9.39	9.05	9.49	9.67	8.65	8.96	8.85	8.96
Borehole depth to top of casing	m		11.24		11.32	11.27	11.48	11.29	11.25	11.36	11.28	11.36	11.23	11.29	11.26	11.36	11.38	11.3	11.28	11.33	11.23
Top of casing relative to Ordnance Datum Level	m		70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05	70.05
Water level relative to Ordnance Datum	m		60.94	60.45	60.73	60.69	60.67	60.67	60.95	61.05	60.81	60.57	60.34	60.66	61.00	60.56	60.38	61.40	61.09	61.20	61.09
Calculated purge volume	litres																				
Base of Well to Ordnance Datum	m		58.81	58.50	58.73	58.78	58.57	58.76	58.80	58.69	58.77	58.69	58.82	58.76	58.79	58.69	58.67	58.75	58.77	58.72	58.82
Gas Concentrations																					
Date monitored	-		31/03/11	27/06/2011	07/09/11					11/12/12	12/03/13				03/03/14	03/06/14			08/06/15	04/12/15	22/06/16
Time of measurement	-		15:14	13:52	13:40					14:13	13:40				12:42	10:06			14:13	14:02	14:30
Methane	% vol		<0.1	<0.1	0.1					0.1					<0.1	0.1			0.7	13.9	18.8
Carbon Dioxide	% vol		1.8	0.1	<0.1					2.4					6	0.8			2.4	15.3	9.2
Oxygen	% vol		19.1	20.7	20.5					18.6					11.7	19.8			17.6	7.2	7.8
Atmospheric Pressure	mbar		983	1006	990					1024					976	1002			1029	1000	1006
Gas Pressure	mbar		+0.02	-0.04	-0.03					0.03					0.03	-0.12			0.03	-0.02	<0.01
Gas Flow Rate	l/hr		-0.1	<0.1	<0.1					0.2					<0.1	<0.1			<0.1	0.3	0.2
Insitu Liquid Determinations																					
pH	pH units				6.4	6.3	6.1	6.3	6.0	6.2		6.3	6.3	6.3	5.5	5.6	6.2	5.2	6.1	5.6	5.3
Electrical Conductivity	µS/cm				200	190	195	265	230	235		210	235	235	215	260	315	155	290	165	185
Dissolved Oxygen	mg/l				9.6		11.2	9.4	10.8	10.8		9.9	8.6	11.6	9.5	5.5	9.1	9.3	6.66	5.9	5.23
Temperature	ºC		9.8		11.0	5.7	8.5	10.8	10.5	6.3	7.7	11.4	14.9	9.2	8.7	10.6	13.5	9.2	10	9.1	10.8
Comment		No access due to ice						Spot sample taken													



Ness Farm Landfill
Field Monitoring Sheet

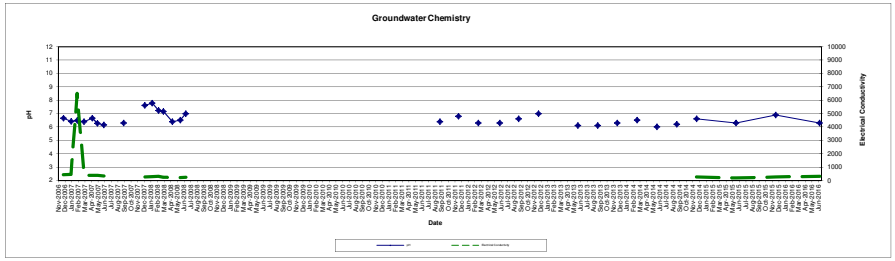
Sampling Location	N66																							
Type Of Sample Required	None	08/12/06	12/01/07	09/02/07	13/03/07	20/04/07	14/05/07	12/06/07	30/07/07	14/08/07	12/09/07	17/10/07	19/11/07	18/12/07	21/01/08	19/02/08	12/03/08	22/04/08	29/05/08	24/06/08	30/07/08	27/08/08	26/09/08	31/10/08
Determinand	Units																							
Water Level																								
Water level to top of casing	m	2.40	1.49	1.33	0.65	1.04	1.10	1.06	0.86	0.95	1.08	1.20	1.20	0.74	0.38	0.52	0.77	0.82	0.97	1.00	1.14	1.05	1.04	1.03
Borehole depth to top of casing	m	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
Top of casing relative to Ordnance Datum Level	m	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74
Water level relative to Ordnance Datum	m	4.34	5.25	5.41	6.09	5.70	5.64	5.68	5.88	5.79	5.66	5.54	5.54	6.00	6.36	6.22	5.97	5.92	5.77	5.74	5.60	5.69	5.70	5.71
Calculated purge volume	litres	18.00	44.08	45.36	24.00	16.00	14.00	14.00	N/A	N/A	14.00	N/A	N/A	16.00	20.00	51.84	49.84	49.44	48.24	48.00	46.88	47.60	47.68	47.76
Base of Well to Ordnance Datum	m	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26
Gas Concentrations																								
Date monitored	-	08/12/06	12/01/07	09/02/07	13/03/07	20/04/07	14/05/07	12/06/07	30/07/07	14/08/07	12/09/07	17/10/07	19/11/07	18/12/07	21/01/08	19/02/08	12/03/08	22/04/08	29/05/08	24/06/08	30/07/08	27/08/08	26/09/08	31/10/08	
Time of measurement	-	10:10	10:40	10:50	10:00	11:30	09:50	12:00	11:05	11:45	12:10	10:45	13:30	11:30	11:35	11:30	10:55				00:00	14:57	04:04	
Methane	% vol	0.00	0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Carbon Dioxide	% vol	1.00	0.1	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.5	0.5	0.8	1.2	0.3	0.9	0.5	1.6	1.1	1.1	1.6	0.5	1.2	
Oxygen	% vol	19.30	19.3	19.8	17.6	20.2	18.6	17.7	15.4	18.0	19.6	18.5	18.4	19.2	20.7	19.3	20.6	19.2	18.8	19.1	19.5	20.0	19.6	
Atmospheric Pressure	mbar	979.00	989	1007	1019	1023	1005	1009	1017	996	1025	1013	1013	1039	1005	998	982	1017	1010	1014	1005	1002	1023	
Gas Pressure	mbar	1.3	3.3	3.2	5.5	5.2	3.4	<0.1	2.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-2.2	<0.1	-0.1	<0.1	-0.6	-1	
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	0.9	<0.1	<0.1	<0.1	-0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Insitu Liquid Determinations																								
pH	pH units	6.66	6.41	6.49	6.39	6.65	6.26	6.16			6.29			7.62	7.79	7.23	7.15	6.4	6.5	7				
Electrical Conductivity	µS/cm	430	462	6508	376	390	395	326			2595			256	291	303	244.2	212	228	249				
Dissolved Oxygen	mg/l	2.23	0.87	1.12	1.48	1.04	1.43	1.29			6.32			4.92	6.38	5.5	5.84							
Temperature	ºC	8.9	6.9	5.9	7.3	8.3	10.1	11.9			13.9			7.7	5.5	6.9	7.7	8	8	10				
Comment			Casing Changed																					Equipment Failure





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N66																								
Type Of Sample Required	None	28/11/08	19/12/08	29/01/09	27/02/09	31/03/09	15/04/09	15/05/09	29/06/09	15/07/09	15/08/09	30/09/09	30/10/09	26/11/09	18/12/09	01/02/10	29/03/10	16/04/10	05/05/10	15/06/10	15/07/10	15/08/10	15/09/10	15/10/10	15/11/10
Determinand	Units																								
Water Level																									
Water level to top of casing	m	1.01	0.20	0.20	0.17	0.66			0.93								0.36			0.83					
Borehole depth to top of casing	m	7.00	7.00	7.00	7.00	7.00			7.00								5.58			2.53					
Top of casing relative to Ordnance Datum Level	m	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74
Water level relative to Ordnance Datum	m	5.73	6.54	6.54	6.57	6.08			5.81								6.38			5.91					
Calculated purge volume	litres	47.92	54.40	54.40	54.64	50.72			48.56																
Base of Well to Ordnance Datum	m	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	-0.26	4.21					
Gas Concentrations																									
Date monitored	-	28/11/08	19/12/08	29/01/09	27/02/09	31/03/09			29/06/2009								29/03/2010			15/06/2010					
Time of measurement	-	00:00	06:57	08:24	14:28	11:23			14:36								15:00			14:56					
Methane	% vol	0	0	0	0	0			0											<0.1					
Carbon Dioxide	% vol	1.6	1.6	2.4	3.1	0.1			4.1											4.2					
Oxygen	% vol	19.6	19.9	19.1	18.7	19.3			16											14.3					
Atmospheric Pressure	mbar	1002	1019	1019	1016	1019			1018											1028					
Gas Pressure	mbar	0	-3.49	0.08	0.01	-3.54			0.12											-0.33					
Gas Flow Rate	l/hr	<0.1	-0.9	<0.1	<0.1	-0.7			<0.1											+/-0.1					
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																			11.3					
Comment													FLOODED				No gas for this sample point.								Monitoring visit not undertaken due to adverse weather



Ness Farm Landfill
Field Monitoring Sheet

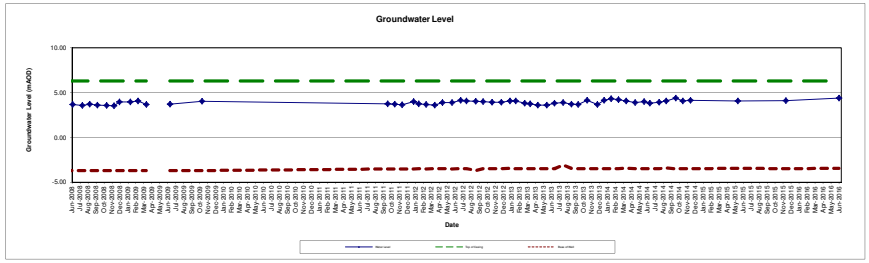
Sampling Location	**N66**	(Dec Mon)																										
Type Of Sample Required	None	12/01/11	26/01/11	22/02/11	31/03/11	25/04/11	31/05/11	24/06/11	20/07/11	18/08/11	07/09/11	06/10/11	02/11/11	01/12/11	13/01/12	02/02/12	01/03/12	03/04/12	02/05/12	08/06/12	10/07/12	02/08/12	03/09/12	04/10/12	08/11/12	04/12/12		05/02/13
Determinand	Units																											
Water Level																												
Water level to top of casing	m			0.4	0.00	0.71	0.99	1.07	0.98	0.73	0.94	0.88	0.80	0.88	0.80	0.82	0.94	1.04	0.77	1.00	0.64	0.65	0.40	0.53	0.45	0.15		0.00
Borehole depth to top of casing	m				2.50				2.47	2.50	2.48	2.47	2.46	2.47	2.41	2.40	2.42	2.42	2.42	2.40	2.40	2.39	2.38	2.37	2.34	2.38		2.42
Top of casing relative to Ordnance Datum Level	m	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74		6.74
Water level relative to Ordnance Datum	m			6.34	6.74	6.03	5.75	5.67	5.76	6.01	5.80	5.86	5.94	5.86	5.94	5.92	5.80	5.70	5.97	5.74	6.10	6.09	6.34	6.21	6.29	6.59		6.74
Calculated purge volume	litres																											
Base of Well to Ordnance Datum	m				4.24				4.27	4.24	4.26	4.27	4.28	4.27	4.33	4.34	4.32	4.32	4.32	4.34	4.34	4.35	4.36	4.37	4.40	4.36		4.32
Gas Concentrations																												
Date monitored	-			22/02/2011	31/03/11	25/04/11	31/05/11	24/06/11	20/07/11		07/09/11	06/10/11	02/11/11													04/12/12		
Time of measurement	-			12:50	16:55	14:11	12:21	14:15	13:55		14:22	12:01	16:18													11:48		
Methane	% vol							<0.1			0.2	<0.1	<0.1													<0.1		
Carbon Dioxide	% vol							0.5			0.2	0.1	0.1													0.1		
Oxygen	% vol							20.0			19.7	20.7	20.2													20.8		
Atmospheric Pressure	mbar							1019			997	994	1001													1002		
Gas Pressure	mbar							0.00			0.03	<0.1	-0.03													-0.07		
Gas Flow Rate	l/hr							<0.1			NR	<0.1	Comment													0.1		
Insitu Liquid Determinations																												
pH	pH units										6.4			6.8			6.3			6.3			6.6			7.0		
Electrical Conductivity	µS/cm										270			320			220			240			250			320		
Dissolved Oxygen	mg/l										6.4			9.3			6.7			6.2			4.4			8.5		
Temperature	℃				7.0						14.0			8.9			7.3			10.2			16.1			6.5		
Comment		Could not locate			Borehole Flooded	Tap found open		Tap requires replacing	Tap broken		Gas tap damaged		No gas tap present		gas tap damaged	gas tap damaged	No cap or tap present		No bung or gas tap present	Spot sample taken							Flooded.	Flooded

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N66																									
Type Of Sample Required	None	11/03/13	01/04/13	01/05/13	03/06/13	03/07/13	05/08/13	02/09/13	01/10/13	04/11/13	02/12/13	07/01/14	03/02/14	03/03/14	01/04/14	06/05/14	02/06/14	01/07/14	05/08/14	01/09/14	08/10/14	03/11/14	01/12/14	01/06/15	01/12/15	20/06/16
Determinand	Units																									
Water Level																										
Water level to top of casing	m	0.47	0.59	0.89	0.98	1.12	1.18	1.24	1.36	0.97	0.14	0.42	0	0	0.6	0.84	0.96	1.1	1.17	1.08	0.63	0.73	0.32	0.96	0.67	0.69
Borehole depth to top of casing	m	2.36	2.47	2.57	2.48	2.58	2.47	2.5	2.54	2.47	2.48	2.57	2.57	2.57	2.52	2.46	2.43	2.5	2.48	2.45	2.56	2.58	2.55	2.5	2.5	2.45
Top of casing relative to Ordnance Datum Level	m	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74	6.74
Water level relative to Ordnance Datum	m	6.27	6.15	5.85	5.76	5.62	5.56	5.50	5.38	5.77	6.60	6.32	6.74	6.74	6.14	5.90	5.78	5.64	5.57	5.66	6.11	6.01	6.42	5.78	6.07	6.05
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m	4.38	4.27	4.17	4.26	4.16	4.27	4.24	4.20	4.27	4.26	4.17	4.17	4.17	4.22	4.28	4.31	4.24	4.26	4.29	4.18	4.16	4.19	4.24	4.24	4.29
Gas Concentrations																										
Date monitored	-	11/03/13	01/04/13												01/04/14											20/06/16
Time of measurement	-	10:29	10:11												11:13											11:30
Methane	% vol	0.1													<0.1											
Carbon Dioxide	% vol	0.2													0.2											
Oxygen	% vol	21													20.4											
Atmospheric Pressure	mbar	1023													1014											
Gas Pressure	mbar	-0.1													0.21											
Gas Flow Rate	l/hr	<0.1													-0.2											
Insitu Liquid Determinations																										
pH	pH units				6.1			6.1			6.3			6.5			6			6.2			6.6	6.3	6.9	6.3
Electrical Conductivity	µS/cm				200			170			210			205			185			200			260	205	260	305
Dissolved Oxygen	mg/l				5.4			4.5			9.2			7.6			7.1			7.9			5.9	5.69	6.1	6.9
Temperature	℃	5.3			11.7			17.7			8.1			7.0			15.7			15.3			9.7	11.6	8	13.4
Comment													Sample point under water.	Water was up to top of the cover					Very soft sediment.	Very soft sediment.						

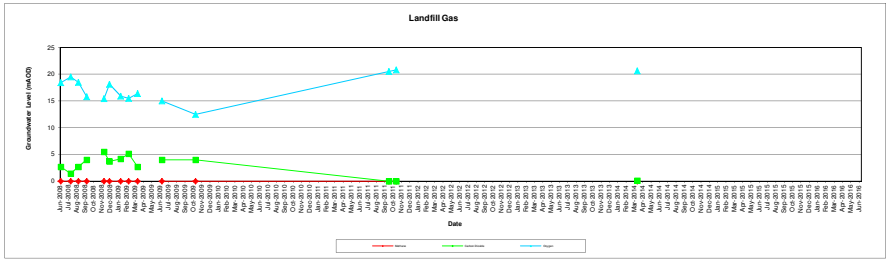
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N67																						
Type Of Sample Required	None	08/12/06	12/01/07	09/02/07	13/03/07	20/04/07	14/05/07	12/06/07	30/07/07	14/08/07	12/09/07	17/10/07	19/11/07	18/12/07	21/01/08	19/02/08	12/03/08	22/04/08	30/05/08	24/06/08	30/07/08	27/08/08	26/09/08
Determinand	Units																						
Water Level																							
Water level to top of casing	m	3.82	2.71	2.68	2.32	2.60	2.61	2.66	2.48	2.51	2.73	2.82	2.82	2.63	2.29	2.42	2.65	2.66	2.73	2.60	2.74	2.58	2.69
Borehole depth to top of casing	m	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Top of casing relative to Ordnance Datum Level	m	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29
Water level relative to Ordnance Datum	m	2.47	3.58	3.61	3.97	3.69	3.68	3.63	3.81	3.78	3.56	3.47	3.47	3.66	4.00	3.87	3.64	3.63	3.56	3.69	3.55	3.71	3.60
Calculated purge volume	litres	56.00	58.32	58.56	60.00	59.00	58.00	58.00	N/A	N/A	58.00	N/A	N/A	56.00	61.00	60.64	58.80	58.72	58.16	59.20	58.08	59.36	58.48
Base of Well to Ordnance Datum	m	-3.71	-3.71	-3.71	-3.71	-3.71	-3.71	-3.71	-3.71	-3.71	-3.71	-3.71	-3.71	-3.71	-3.71	-3.71	-3.71	-3.71	-3.71	-3.71	-3.71	-3.71	-3.71
Gas Concentrations																							
Date monitored	-	08/12/2006	12/01/2007	09/02/2007	13/03/2007	20/04/2007	14/05/2007	12/06/2007	30/07/2007	14/08/2007	12/09/2007	17/10/2007	19/11/2007	18/12/2007	21/01/2008	19/02/2008	12/03/2008	22/04/2008	30/05/2008	24/06/2008	30/07/2008	27/08/2008	26/09/2008
Time of measurement	-	09:10	11:22	11:55	11:30	12:50	15:15	14:40	11:13	11:15	13:15	10:55	13:40	12:35	12:00	11:55	11:25				00:00	15:08	10:04
Methane	% vol	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	1.3	2.4	1.8	2.2	1.9	0.6	3.4	2.9	3.5	0.5	3.1	3.4	6.0	7.2	6.9	2.7	1.5	4.0	2.7	1.4	2.7	4.0
Oxygen	% vol	19.2	14.5	17.5	18.1	17.0	20.3	14.6	18.2	17.2	20.4	16.9	16.8	11.6	12.3	12.1	17.4	19.4	15.1	18.4	19.5	18.5	15.8
Atmospheric Pressure	mbar	979	988	1007	1017	1023	1003	1008	1016	997	1025	1013	1013	1038	1005	998	982	1017	1015	1014	1005	1002	1022
Gas Pressure	mbar	0.4	1.7	2.6	1.7	6.6	1.9	-7.7	+2.6	<0.1	<0.1	<0.1	<0.1	1.1	0.8	0.5	3	<0.1	<0.1	-0.2	-0.6	-1.1	-1
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	-0.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	-0.4
Insitu Liquid Determinations																							
pH	pH units	6.65	6.37	6.48	6.36	6.34	6.25	6.16			6.08			6.72	6.63	6.62	6.94	7.1	6.6	7			
Electrical Conductivity	µS/cm	3910.00	2190	1844	1826	1582	1618	326			755			568	723	619	538	280	781	693			
Dissolved Oxygen	mg/l	3.06	0.33	0.91	0.4	0.88	0.79	1.29			3.75			2.43	3.12	2.77	3.42						
Temperature	℃	14.00	12.7	11.2	12.9	11.8	11.7	11.9			12.4			12.5	11.8	12	12.5	11	10	11			
Comment			Casing Changed																				



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N67																														
Type Of Sample Required	None	31/10/08	28/11/08	19/12/08	29/01/09	27/02/09	31/03/09	15/04/09	15/05/09	29/06/09	29/10/09	06/10/11	02/11/11	01/12/11	13/01/12	02/02/12	01/03/12	03/04/12	02/05/12	08/06/12	10/07/12	02/08/12	06/09/12	04/10/12	07/11/12	13/12/12	14/01/13	05/02/13	11/03/13
Determinand	Units																														
Water Level																															
Water level to top of casing	m	2.74	2.76	2.34	2.34	2.23	2.61			2.59	2.25	2.56	2.58	2.67	2.30	2.55	2.62	2.68	2.40	2.40	2.17	2.24	2.26	2.30	2.35	2.38	2.22	2.21	2.47
Borehole depth to top of casing	m	10.00	10.00	10.00	10.00	10.00	10.00			10.00	10.00	9.81	9.83	9.81	9.80	9.78	9.80	9.77	9.76	9.80	9.79	9.76	9.98	9.76	9.78	9.77	9.75	9.79	9.76
Top of casing relative to Ordnance Datum Level	m	6.29	6.29	6.29	6.29	6.29	6.29			6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29
Water level relative to Ordnance Datum	m	3.55	3.53	3.95	3.95	4.06	3.68			3.70	4.04	3.73	3.71	3.62	3.99	3.74	3.67	3.61	3.89	3.89	4.12	4.05	4.03	3.99	3.94	3.91	4.07	4.08	3.82
Calculated purge volume	litres	58.08	57.92	61.28	61.28	62.16	59.12			59.28	62.00																		
Base of Well to Ordnance Datum	m	-3.71	-3.71	-3.71	-3.71	-3.71	-3.71			-3.71	-3.71	-3.52	-3.54	-3.52	-3.51	-3.49	-3.51	-3.48	-3.47	-3.51	-3.50	-3.47	-3.69	-3.47	-3.49	-3.48	-3.46	-3.50	-3.47
Gas Concentrations																															
Date monitored	-	31/10/2008	28/11/2008	19/12/2008	29/01/2009	27/02/2009	31/03/2009			29/06/2009	29/10/2009	06/10/11	02/11/11		13/01/12		01/03/12	04/03/12											11/03/13
Time of measurement	-		10:33	12:57	09:50	14:15	11:06			15:36	14:43	11:44	16:38				10:05	12:54											11:47
Methane	% vol		0	0	0	0	0			0	0	<0.1	<0.1																
Carbon Dioxide	% vol		5.5	3.7	4.2	5.1	2.7			4	4	<0.1	<0.1																
Oxygen	% vol		15.4	18.1	15.9	15.5	16.4			15	12.5	20.5	20.8																
Atmospheric Pressure	mbar		1002	1017	1019	1016	1020			1017	1022	994	1001																
Gas Pressure	mbar		0.03	0.07	-0.01	0.03	-0.17			1.77	0	-0.28	<0.01																
Gas Flow Rate	l/hr		<0.1	0.1	<0.1	<0.1	<0.1			<0.1	<0.1	<0.1	Comment																
Insitu Liquid Determinations																													
pH	pH units																												
Electrical Conductivity	µS/cm																												
Dissolved Oxygen	mg/l																												
Temperature	℃																												
Comment		Equipment Failure						Could not locate	Could not locate				Gas tap requires replacing		gas tap needs replacing	gas tap needs replacing	No gas tap												



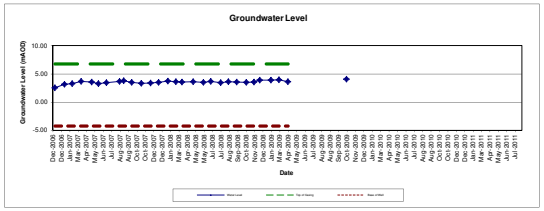
Fairhurst Partners
Environmental Monitoring
June 2016

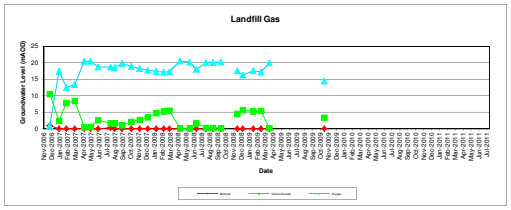
Ness Farm Landfill
Field Monitoring Sheet

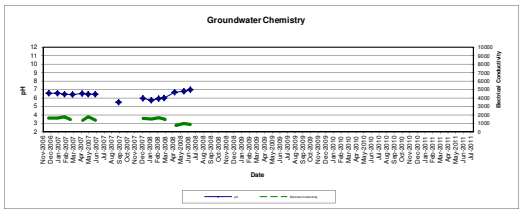
Sampling Location	**N67**																								
Type Of Sample Required	None	01/04/13	01/05/13	03/06/13	03/07/13	05/08/13	05/09/13	01/10/13	04/11/13	13/12/13	07/01/14	03/02/14	03/03/14	01/04/14	06/05/14	09/06/14	01/07/14	05/08/14	01/09/14	08/10/14	03/11/14	03/12/14	01/06/15	01/12/15	20/06/16
Determinand	Units																								
Water Level																									
Water level to top of casing	m	2.56	2.68	2.68	2.47	2.42	2.58	2.61	2.14	2.6	2.16	1.98	2.08	2.22	2.41	2.3	2.46	2.38	2.21	1.9	2.23	2.16	2.24	2.2	1.91
Borehole depth to top of casing	m	9.76	9.78	9.79	9.77	9.37	9.73	9.79	9.77	9.78	9.77	9.79	9.78	9.75	9.79	9.78	9.76	9.77	9.7	9.78	9.76	9.76	9.75	9.77	9.73
Top of casing relative to Ordnance Datum Level	m	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29	6.29
Water level relative to Ordnance Datum	m	3.73	3.61	3.61	3.82	3.87	3.71	3.68	4.15	3.69	4.13	4.31	4.21	4.07	3.88	3.99	3.83	3.91	4.08	4.39	4.06	4.13	4.05	4.09	4.38
Calculated purge volume	litres																								
Base of Well to Ordnance Datum	m	-3.47	-3.49	-3.50	-3.48	-3.08	-3.44	-3.50	-3.48	-3.49	-3.48	-3.50	-3.49	-3.46	-3.50	-3.49	-3.47	-3.48	-3.41	-3.49	-3.47	-3.47	-3.46	-3.48	-3.44
Gas Concentrations																									
Date monitored	-	01/04/13												01/04/14											20/06/16
Time of measurement	-	10:45												11:35											12:35
Methane	% vol													<0.1											
Carbon Dioxide	% vol													0.1											
Oxygen	% vol													20.6											
Atmospheric Pressure	mbar													1014											
Gas Pressure	mbar													-0.19											
Gas Flow Rate	l/hr													0.2											
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment																									

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N68																							
Type Of Sample Required	None	08/12/06	12/01/07	09/02/07	13/03/07	20/04/07	14/05/07	12/06/07	30/07/07	14/08/07	12/09/07	17/10/07	19/11/07	19/12/07	21/01/08	19/02/08	12/03/08	22/04/08	29/05/08	24/06/08	30/07/08	27/08/08	26/09/08	31/10/08
Determinand	Units																							
Water Level																								
Water level to top of casing	m	4.21	3.57	3.50	3.08	3.20	3.48	3.28	3.07	2.99	3.26	3.40	3.39	3.24	3.05	3.16	3.22	3.15	3.23	3.08	3.33	3.15	3.22	3.23
Borehole depth to top of casing	m	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00
Top of casing relative to Ordnance Datum Level	m	6.75	6.75	6.75	6.75	6.75	6.75	6.75	6.75	6.75	6.75	6.75	6.75	6.75	6.75	6.75	6.75	6.75	6.75	6.75	6.75	6.75	6.75	6.75
Water level relative to Ordnance Datum	m	2.54	3.18	3.25	3.67	3.55	3.27	3.47	3.68	3.76	3.49	3.35	3.36	3.51	3.70	3.59	3.53	3.60	3.52	3.67	3.42	3.60	3.53	3.52
Calculated purge volume	litres	50.00	59.44	60.00	56.00	54.00	55.00	54.00	N/A	N/A	54.00	N/A	N/A	56.00	58.00	62.72	62.24	62.80	62.16	63.36	61.36	62.80	62.24	62.16
Base of Well to Ordnance Datum	m	-4.25	-4.25	-4.25	-4.25	-4.25	-4.25	-4.25	-4.25	-4.25	-4.25	-4.25	-4.25	-4.25	-4.25	-4.25	-4.25	-4.25	-4.25	-4.25	-4.25	-4.25	-4.25	-4.25
Gas Concentrations																								
Date monitored	-	08/12/2006	12/01/2007	09/02/2007	13/03/2007	20/04/2007	14/05/2007	12/06/2007	30/07/2007	14/08/2007	12/09/2007	17/10/2007	19/11/2007	19/12/2007	21/01/2008	19/02/2008	12/03/2008	22/04/2008	29/05/2008	24/06/2008	30/07/2008	27/08/2008	26/09/2008	31/10/2008
Time of measurement	-	12:15	11:45	12:30	12:20	14:00	14:30	13:23	11:52	12:07	14:45	12:00	14:25	10:30	14:15	14:50	14:30				00:00	13:29	08:24	
Methane	% vol	0.9	0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Carbon Dioxide	% vol	10.6	2.4	7.8	8.4	0.5	0.6	2.6	1.6	1.6	1.0	2.1	2.7	3.5	4.7	5.2	5.5	0.1	0.1	1.6	0.3	0.3	0.2	
Oxygen	% vol	0.8	17.5	12.5	13.4	20.5	20.5	18.7	18.7	18.5	19.8	18.9	18.2	17.8	17.4	17.2	17.3	20.6	20.2	18.1	20.0	20.1	20.3	
Atmospheric Pressure	mbar	981	987	1006	1017	1022	1003	1009	1016	996	1025	1014	1013	1038	1005	998	984	1015	1010	1015	1007	1002	1022	
Gas Pressure	mbar	2.2	0.6	-1.4	-1	1.5	1.9	<0.1	2.6	-0.2	-0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	0.2	
Gas Flow Rate	l/hr	<0.1	-1.33	-1.7	-0.5	-1.2	-0.3	-0.8	-1.9	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Insitu Liquid Determinations																								
pH	pH units	6.57	6.57	6.46	6.42	6.54	6.46	6.46			5.53			5.98	5.74	5.93	6.02	6.7	6.8	7				
Electrical Conductivity	µS/cm	1645	1645	1806	1354	1304	1776	1358			1111			1620	1536	1682	1534	744	1010	895				
Dissolved Oxygen	mg/l	0.4	0.4	0.34	0.24	0.45	0.52	0.82			2.24			2.9	3.12	2.74	3.14							
Temperature	ºC	11.6	11.6	9.5	8.7	9	9.7	10.7			13			10.5	10	10.2	10.4	10	9	8				
Comment																								Equipment Failure







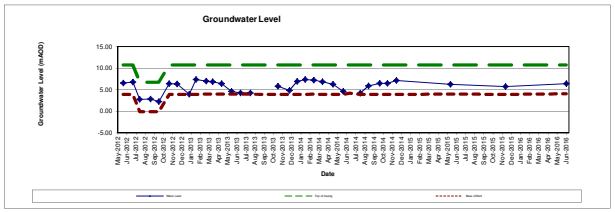
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N68**									(Dec Mon)	
Type Of Sample Required	None	28/11/08	19/12/08	29/01/09	27/02/09	31/03/09	29/06/09	29/10/09	15/11/10	12/01/11	
Determinand	Units										
Water Level											
Water level to top of casing	m	3.19	2.84	2.84	2.79	3.16		2.68		11.00	
Borehole depth to top of casing	m	11.00	11.00	11.00	11.00	11.00		11.00		11.00	
Top of casing relative to Ordnance Datum Level	m	6.75	6.75	6.75	6.75	6.75		6.75		6.75	
Water level relative to Ordnance Datum	m	3.56	3.91	3.91	3.96	3.59		4.07			
Calculated purge volume	litres	62.48	65.28	65.28	65.68	62.72		66.56			
Base of Well to Ordnance Datum	m	-4.25	-4.25	-4.25	-4.25	-4.25		-4.25		-4.25	
Gas Concentrations											
Date monitored	-	28/11/2008	19/12/2008	29/01/2009	27/02/2009	31/03/2009		29/10/2009		12/01/2011	
Time of measurement	-	05:16	11:31	02:38	14:35	10:39		16:05		13:35	
Methane	% vol	0	0	0	0	0		0			
Carbon Dioxide	% vol	4.5	5.7	5.2	5.4	0.2		3.4			
Oxygen	% vol	17.6	16.3	17.6	17.2	20		14.5			
Atmospheric Pressure	mbar	1002	1020	1019	1016	1021		1022			
Gas Pressure	mbar	0.1	0	-0.02	-0.06	-0.65		0.16			
Gas Flow Rate	l/hr	<0.1	0.1	<0.1	0.1	<0.1		<0.1			
Insitu Liquid Determinations											
pH	pH units										
Electrical Conductivity	µS/cm										
Dissolved Oxygen	mg/l										
Temperature	℃										
Comment						Free product thickness = 0.1	SEIZED		Monitoring visit not undertaken due to adverse weather	Borehole flooded	Well lost in grass and could not be located by GPS. Re-drilled as Well N68A on 30th May 2012

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N68A																								
Type Of Sample Required	None	08/06/12	10/07/12	02/08/12	07/09/12	04/10/12	08/11/12	04/12/12	14/01/13	05/02/13	11/03/13	01/04/13	01/05/13	03/06/13	03/07/13	05/08/13	05/09/13	01/10/13	04/11/13	13/12/13	07/01/14	03/02/14	03/03/14	01/04/14	06/05/14
Determinand	Units																								
Water Level																									
Water level to top of casing	m	4.22	4.02	3.94	3.89	4.49	4.34	4.45	6.82	3.42	3.73	3.88	4.33	6.11	6.52	6.55	Dry	Dry	4.92	5.95	3.87	3.41	3.56	3.92	4.53
Borehole depth to top of casing	m	6.84	6.86	6.81	6.85	6.83	6.84	6.82	6.82	6.85	6.81	6.78	6.81	6.81	6.8	6.81	6.83	6.82	6.86	6.82	6.83	6.83	6.81	6.82	6.83
Top of casing relative to Ordnance Datum Level	m	10.78	10.78	6.75	6.75	6.75	10.78	10.78	10.78	10.78	10.78	10.78	10.78	10.78	10.78	10.78	10.78	10.78	10.78	10.78	10.78	10.78	10.78	10.78	10.78
Water level relative to Ordnance Datum	m	6.56	6.76	2.81	2.86	2.26	6.44	6.33	3.96	7.36	7.05	6.90	6.45	4.67	4.26	4.23			5.86	4.83	6.91	7.37	7.22	6.86	6.25
Calculated purge volume	litres																								
Base of Well to Ordnance Datum	m	3.94	3.92	-0.06	-0.10	-0.08	3.94	3.96	3.96	3.93	3.97	4.00	3.97	3.97	3.98	3.97	3.95	3.96	3.92	3.96	3.95	3.95	3.97	3.96	3.95
Gas Concentrations																									
Date monitored	-																							01/04/14	
Time of measurement	-																							11:28	
Methane	% vol																							<0.1	
Carbon Dioxide	% vol																							0.1	
Oxygen	% vol																							20.5	
Atmospheric Pressure	mbar																							1013	
Gas Pressure	mbar																							-0.43	
Gas Flow Rate	l/hr																							0.2	
Insitu Liquid Determinations																									
pH	pH units							6.6																	
Electrical Conductivity	µS/cm							635																	
Dissolved Oxygen	mg/l							5.3																	
Temperature	℃							8.4																	
Comment																									

Cover Level - 10.775m AOD
Ground Level - 10.07m AOD



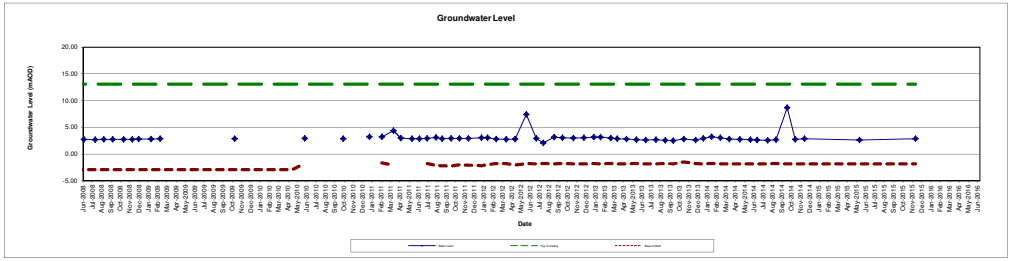
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N68A**										
Type Of Sample Required	None	09/06/14	01/07/14	05/08/14	01/09/14	08/10/14	03/11/14	03/12/14	01/06/15	01/12/15	20/06/16
Determinand	Units										
Water Level											
Water level to top of casing	m	6.12	Dry	6.61	4.87	4.26	4.32	3.62	4.49	5.02	4.34
Borehole depth to top of casing	m	6.82	6.57	6.83	6.82	6.82	6.83	6.83	6.81	6.84	6.73
Top of casing relative to Ordnance Datum Level	m	10.78	10.78	10.78	10.78	10.78	10.78	10.78	10.78	10.78	10.78
Water level relative to Ordnance Datum	m	4.66		4.17	5.91	6.52	6.46	7.16	6.29	5.76	6.44
Calculated purge volume	litres										
Base of Well to Ordnance Datum	m	3.96	4.21	3.95	3.96	3.96	3.95	3.95	3.97	3.94	4.05
Gas Concentrations											
Date monitored	-										20/06/16
Time of measurement	-										12:40
Methane	% vol										
Carbon Dioxide	% vol										
Oxygen	% vol										
Atmospheric Pressure	mbar										
Gas Pressure	mbar										
Gas Flow Rate	l/hr										
Insitu Liquid Determinations											
pH	pH units										
Electrical Conductivity	µS/cm										
Dissolved Oxygen	mg/l										
Temperature	℃										
Comment											

Cover Level - 10.775m AOD
Ground Level - 10.07m AOD

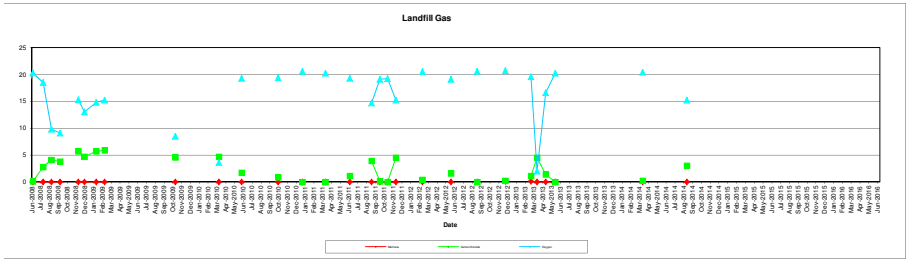
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N69																								
Type Of Sample Required	None	08/12/06	12/01/07	09/02/07	13/03/07	20/04/07	14/05/07	12/06/07	30/07/07	14/08/07	12/09/07	17/10/07	19/11/07	19/12/07	21/01/08	19/02/08	12/03/08	22/04/08	29/05/08	24/06/08	30/07/08	27/08/08	26/09/08	31/10/08	28/11/08	19/12/08
Determinand	Units																								
Water Level																									
Water level to top of casing	m		10.40	10.41	10.28	10.36	10.34	10.39	10.34	10.37	10.42	10.44	10.45	10.40	10.27	10.32	10.35	10.30	10.35	10.35	10.40	10.34	10.36	10.34	10.32	10.30
Borehole depth to top of casing	m		16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
Top of casing relative to Ordnance Datum Level	m		13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11
Water level relative to Ordnance Datum	m		2.71	2.70	2.83	2.75	2.77	2.72	2.77	2.74	2.69	2.67	2.66	2.71	2.84	2.79	2.76	2.81	2.76	2.76	2.71	2.77	2.75	2.77	2.79	2.81
Calculated purge volume	litres		44.80	44.72	40.00	39.00	39.00	38.00	N/A	N/A	36.00	N/A	N/A	36.00	39.00	45.44	45.20	45.60	45.20	45.20	44.80	45.28	45.12	45.28	45.44	45.60
Base of Well to Ordnance Datum	m		-2.89	-2.89	-2.89	-2.89	-2.89	-2.89	-2.89	-2.89	-2.89	-2.89	-2.89	-2.89	-2.89	-2.89	-2.89	-2.89	-2.89	-2.89	-2.89	-2.89	-2.89	-2.89	-2.89	-2.89
Gas Concentrations																									
Date monitored	-	08/12/2006	12/01/2007	09/02/2007	13/03/2007	20/04/2007	14/05/2007	12/06/2007	30/07/2007	14/08/2007	12/09/2007	17/10/2007	19/11/2007	19/12/2007	21/01/2008	19/02/2008	12/03/2008	22/04/2008	29/05/2008	24/06/2008	30/07/2008	27/08/2008	26/09/2008	31/10/2008	28/11/2008	19/12/2008
Time of measurement	-		10:20	11:30	10:45	10:50	13:30	11:00	12:04	12:17	15:30	12:20	14:45	10:00	14:40	11:00	13:50				00:00	13:40	10:19	00:00	06:43	13:40
Methane	% vol		0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0	0
Carbon Dioxide	% vol		2	1.5	1.5	3.2	1.6	2.1	2.8	2.3	4.0	4.1	3.9	4.2	5.2	5.0	6.2	2.5	2.6	0.1	2.8	4.1	3.8		5.7	4.7
Oxygen	% vol		9.7	15.9	12.3	10.8	8.0	7.1	4.6	10.2	13.8	6.5	7.8	12.8	12.5	13.2	13.8	19.0	16.1	20.3	18.5	9.8	9.1		15.3	13
Atmospheric Pressure	mbar		989	1006	1017	1023	1003	1009	1015	996	1024	1013	1013	1038	1004	998	983	1015	1010	1015	1006	1001	1021		1001	1019
Gas Pressure	mbar		No	<0.1	<0.1	2.5	-0.2	0.1	1.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.8	<0.1	-1.1	<0.1	2	<0.1		-0.47	-1.53
Gas Flow Rate	l/hr		Cap	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	0.1
Insitu Liquid Determinations																										
pH	pH units		6.46	6.41	6.38	6.39	6.24	6.28			5.47			6.23	6.15	6.31	6.45	7.1	6.6	6.7						
Electrical Conductivity	µS/cm		1285	1124	1345	3430	3230	2245			1731			1382	1462	1421	1279	945	2140	1850						
Dissolved Oxygen	mg/l		0.81	0.74	1.04	0.88	1.36	1.9			7.95			6.42	5.9	5.36	5.65									
Temperature	℃		9.7	9.4	9.2	9.5	10.3	9.9			10			8.88	8.6	8.8	9.1	9	8	8						
Comment		Casing padlocked shut do not have key	Casing Changed																					Equipment Failure		



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N69																				(Sept mon)		
Type Of Sample Required	None	29/01/09	27/02/09	31/03/09	15/04/09	15/05/09	29/06/09	15/07/09	15/08/09	30/09/09	29/10/09	26/11/09	18/12/09	01/02/10	29/03/10	16/04/10	05/05/10	15/06/10	15/07/10	15/08/10	19/10/10	27/10/10	15/11/10
Determinand	Units																						
Water Level																							
Water level to top of casing	m	10.30	10.22								10.20							10.17			10.20		
Borehole depth to top of casing	m	16.00	16.00								16.00							14.86			14.90		
Top of casing relative to Ordnance Datum Level	m	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11
Water level relative to Ordnance Datum	m	2.81	2.89								2.91							2.94			2.91		
Calculated purge volume	litres	45.60	46.24								46.40												
Base of Well to Ordnance Datum	m	-2.89	-2.89	-2.89	-2.89	-2.89	-2.89	-2.89	-2.89	-2.89	-2.89	-2.89	-2.89	-2.89	-2.89	-2.89	-2.89	-1.75			-1.79		
Gas Concentrations																							
Date monitored	-	29/01/2009	27/02/2009	31/03/2009			29/06/2009				29/10/2009				29/03/2010			15/06/2010			19/10/2010		
Time of measurement	-	05:02	14:21	11:42			14:47				14:12				14:20			14:40			16:45		
Methane	% vol	0	0								0				<0.1			<0.1			<0.1		
Carbon Dioxide	% vol	5.7	5.9								4.6				4.7			1.7			0.9		
Oxygen	% vol	14.8	15.2								8.5				3.6			19.3			19.4		
Atmospheric Pressure	mbar	1019	1016								1022				1005			1028			1001		
Gas Pressure	mbar	0.06	0.03								0.87				-0.65			-0.05			-0.1		
Gas Flow Rate	l/hr	<0.1	<0.1								<0.1				+/-0.1			+/-0.1			+/-0.1		
Insitu Liquid Determinations																							
pH	pH units																						
Electrical Conductivity	µS/cm																						
Dissolved Oxygen	mg/l																						
Temperature	ºC																						
Comment				Seized			Seized																Monitoring visit not undertaken due to adverse weather



Ness Farm Landfill
Field Monitoring Sheet

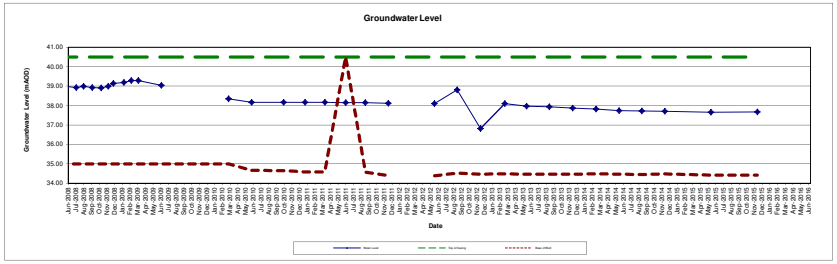
Sampling Location	**N69**	(Dec Mon)																										
Type Of Sample Required	None	12/01/11	26/01/11	22/02/11	01/04/11	25/04/11	31/05/11	24/06/11	20/07/11	18/08/11	07/09/11	06/10/11	02/11/11	01/12/11	13/01/12	02/02/12	01/03/12	03/04/12	02/05/12	08/06/12	10/07/12	02/08/12	07/09/12	04/10/12	08/11/12	13/12/12	14/01/13	05/02/13
Determinand	Units																											
Water Level																												
Water level to top of casing	m	9.89		9.85	8.73	10.10	10.25	10.21	10.17	9.99	10.20	10.19	10.17	10.16	10.07	10.02	10.27	10.36	10.29	5.71	10.16	10.98	9.93	10.03	10.09	10.02	9.91	9.91
Borehole depth to top of casing	m	15.20		14.76	15.18				14.87	15.23	15.28	15.33	15.13	15.17	15.27	15.08	14.85	14.86	15.19	14.86	14.90	14.84	14.90	14.89	14.95	14.94	14.89	14.92
Top of casing relative to Ordnance Datum Level	m	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11
Water level relative to Ordnance Datum	m	3.22		3.26	4.38	3.01	2.86	2.90	2.94	3.12	2.91	2.92	2.94	2.95	3.04	3.09	2.84	2.75	2.82	7.40	2.95	2.13	3.18	3.08	3.02	3.09	3.20	3.20
Calculated purge volume	litres																											
Base of Well to Ordnance Datum	m	-2.09		-1.65	-2.07				-1.76	-2.12	-2.17	-2.22	-2.02	-2.06	-2.16	-1.97	-1.74	-1.75	-2.08	-1.75	-1.79	-1.73	-1.79	-1.78	-1.84	-1.83	-1.78	-1.81
Gas Concentrations																												
Date monitored	-	12/01/2011		22/02/2011	01/04/11	25/04/11	31/05/11	24/06/11	20/07/11		07/09/11	06/10/11	02/11/11	01/12/12	01/12/12	02/02/12	01/03/12	03/04/12	02/05/12	08/06/12			07/09/12			13/12/12		
Time of measurement	-	13:30		13:40	9:45	14:01	12:29	14:46	14:10		14:41	12:17	16:29	11:32			11:41	13:34		15:46			15:13			14:24		
Methane	% vol	<0.1			<0.1			<0.1			<0.1	<0.1	<0.1	<0.1			<0.1			<0.1			<0.1			0.1		
Carbon Dioxide	% vol	<0.1			<0.1			1.1			3.9	0.1	<0.1	4.5			0.4			1.6			<0.1			0.2		
Oxygen	% vol	20.6			20.2			19.3			14.7	19.1	19.2	15.2			20.5			19.1			20.6			20.7		
Atmospheric Pressure	mbar	1000			1005			1017			996	993	1000	999			1021			995			1016			1007		
Gas Pressure	mbar	-0.07			0			0.00			<0.01	0.02	<0.01	0.23			<0.01			-0.12			0.06			<0.05		
Gas Flow Rate	l/hr	+/-0.1			0.0			<0.1			<0.1	<0.1	Comment	-0.2			n/r			-0.1			<0.1			<0.1		
Insitu Liquid Determinations																												
pH	pH units																											
Electrical Conductivity	µS/cm																											
Dissolved Oxygen	mg/l																											
Temperature	℃																											
Comment						Tap found open. No sampling point present.		Tap requires replacing			Gas tap damaged		Gas tap requires replacing	Gas tap requires replacing	Gas tap requires replacing	Gas tap requires replacing			Gas tap requires replacing	Gas tap needs replacing			Gas tap requires replacing		Borehole head replaced.			

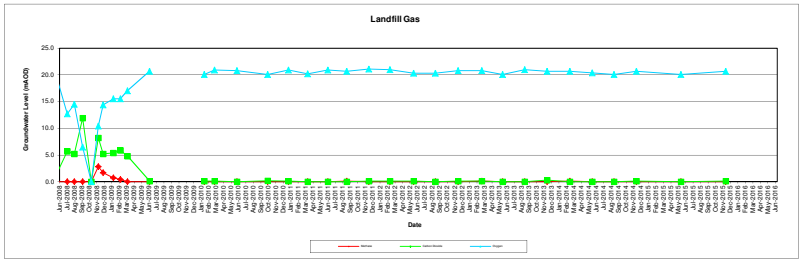
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N69**																								
Type Of Sample Required	None	11/03/13	01/04/13	01/05/13	03/06/13	03/07/13	05/08/13	05/09/13	01/10/13	04/11/13	13/12/13	07/01/14	03/02/14	03/03/14	01/04/14	06/05/14	09/06/14	01/07/14	05/08/14	01/09/14	08/10/14	03/11/14	03/12/14	01/06/15	01/12/15	20/06/16
Determinand	Units																								
Water Level																									
Water level to top of casing	m	10.08	10.2	10.31	10.42	10.46	10.42	10.51	10.59	10.28	10.44	10.16	9.89	10.04	10.3	10.34	10.4	10.47	10.51	10.39	4.45	10.34	10.25	10.46	10.21	
Borehole depth to top of casing	m	14.88	14.93	14.94	14.88	14.92	14.9	14.86	14.9	14.56	14.89	14.9	14.88	14.93	14.92	14.94	14.9	14.91	14.92	14.88	14.92	14.92	14.93	14.93	14.9	
Top of casing relative to Ordnance Datum Level	m	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	13.11	
Water level relative to Ordnance Datum	m	3.03	2.91	2.80	2.69	2.65	2.69	2.60	2.52	2.83	2.67	2.95	3.22	3.07	2.81	2.77	2.71	2.64	2.60	2.72	8.66	2.77	2.86	2.65	2.90	
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m	-1.77	-1.82	-1.83	-1.77	-1.81	-1.79	-1.75	-1.79	-1.45	-1.78	-1.79	-1.77	-1.82	-1.81	-1.83	-1.79	-1.80	-1.81	-1.77	-1.81	-1.81	-1.82	-1.82	-1.79	
Gas Concentrations																									
Date monitored	-	11/03/13	01/04/13	01/05/13	03/06/13										01/04/14					01/09/14						
Time of measurement	-	11:16	09:30	10:38	11:23										11:25					12:04						
Methane	% vol	0.1	<0.1	<0.1	<0.1										<0.1					<0.1						
Carbon Dioxide	% vol	1.1	4.5	1.4	<0.1										0.2					3						
Oxygen	% vol	19.6	2	16.6	20.2										20.4					15.2						
Atmospheric Pressure	mbar	1023	1019	1016	1031										1013					1010						
Gas Pressure	mbar	-0.13	0.15	-0.02	-0.1										-0.29					0.15						
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	0.1										0.1					0.1						
Insitu Liquid Determinations																									
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	℃																									
Comment												Spongy	Spongy.													Level measurement missed

Ness Farm Landfill
Field Monitoring Sheet

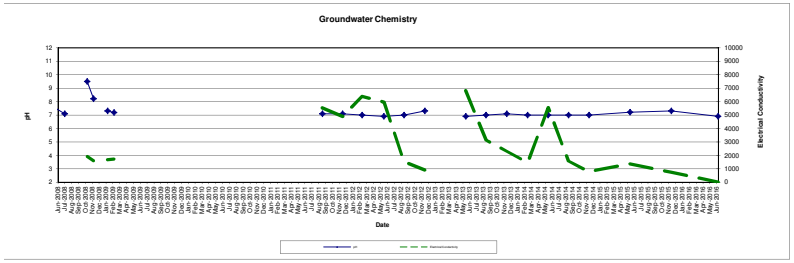
Sampling Location	N70																											
Type Of Sample Required	Groundwater	24/07/07	10/08/07	07/09/07	16/10/07	19/11/07	12/12/07	17/01/08	06/02/08	12/03/08	22/04/08	27/05/08	11/06/08	22/07/08	20/08/08	23/09/08	29/10/08	26/11/08	16/12/08	27/01/09	25/02/09	25/03/09	24/06/09	30/09/09	02/02/10	16/03/10	15/06/10
Determinand	Units																											
Water Level																												
Water level to top of casing	m	1.40	1.50	1.58	1.57	1.55	1.55	1.40	1.51		1.38	1.44	1.50	1.56	1.50	1.56	1.58	1.51	1.35	1.31	1.20	1.20	1.45		0.00	2.15	2.33
Borehole depth to top of casing	m	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50		5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50		5.50	5.88	5.83
Top of casing relative to Ordnance Datum Level	m	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49
Water level relative to Ordnance Datum	m	39.09	38.99	38.91	38.92	38.94	38.94	39.09	38.98		39.11	39.05	38.99	38.93	38.99	38.93	38.91	38.98	39.14	39.18	39.29	39.29	39.04			38.34	38.16
Calculated purge volume	litres	32.00	30.00	30.00	30.00	30.00	32.00	31.00	31.92		32.96	32.48	32.00	31.52	32.00	31.52	31.36	31.92	33.20	33.52	34.40	34.40	32.40		44.00		
Base of Well to Ordnance Datum	m	34.99	34.99	34.99	34.99	34.99	34.99	34.99	34.99	34.99	34.99	34.99	34.99	34.99	34.99	34.99	34.99	34.99	34.99	34.99	34.99	34.99	34.99	34.99	34.99	34.99	34.66
Gas Concentrations																												
Date monitored	-	24/07/2007	10/08/2007	07/09/2007	16/10/2007	19/11/2007	12/12/2007	17/01/2008	06/02/2008	12/03/2008	22/04/2008	27/05/2008	11/06/2008	22/07/2008	20/08/2008	23/09/2008	29/10/2008	26/11/2008	16/12/2008	27/01/2009	25/02/2009	25/03/2009	24/06/2009		02/02/2010	16/03/2010	15/06/2010
Time of measurement	-	11:20	11:15	11:24	11:55	11:40	15:40	12:50	16:20	No				00:00	16:11	07:40	00:00	13:55	14:09	13:55	15:54	15:58	11:02		04:04	11:10	11:18
Methane	% vol	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	access	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	1.7	0.7	0.4	0.0	0.0		0.0	<0.1	<0.1
Carbon Dioxide	% vol	1.2	2.3	1.6	3.4	4.2	4.8	5.5	4.2	Bulls	4.7	2.9	1.6	5.7	5.2	11.9	0.0	8.2	5.2	5.4	5.9	4.8	0.1		0.1	0.1	<0.1
Oxygen	% vol	19.5	18.8	18.6	17.4	16.6	17.3	17.1	16.8	in	9.5	15.8	19.3	12.7	14.5	6.5	0.0	10.4	14.4	15.5	15.5	17.0	20.7		20.1	20.9	20.8
Atmospheric Pressure	mbar	997	1010	1021	996	1004	1025	982	1010	Field	1015	1016	1010	1004	991	1019	0	1015	1001	1011	1005	996	1025		1005	1017	1025
Gas Pressure	mbar	<0.1	0.4	0.1	<0.1	4.1	-2.5	-2.6	-2.2		-0.3	<0.1	<0.1	-2	-2.3	-1.3	0	-1	0.53	-1.25	-0.99	-0.82			0	-0.02	-0.14
Gas Flow Rate	l/hr	-0.5	-1.2	-0.3	-2.1	4.3	-3.4	-2.9	-0.7		<0.1	<0.1	-3.3	<0.1	<0.1	-1.1	0	<0.1	0.1	-3.1	-2.7	<0.1			0	+/-0.1	+/-0.1
Insitu Liquid Determinations																												
pH	pH units	6.63	6.69	6.84	6.66	6.78	6.81	6.7	6.18		7.5	7.7	7.5	7.1			9.49	8.2		7.31	7.19							
Electrical Conductivity	µS/cm	7560	6680	5200	5560	5240	1860	1582	1925		1890	3000	3380	3770			1905	1600		1664	1730							
Dissolved Oxygen	mg/l	1.75	1.39	5.49	4.7	4.99	1.37	1.6	1.55								0.45			0.16	1.71							
Temperature	°C	12.9	13	13.3	13	12.1	9.1	9.1	9.1		8	9	9	11			11.92	9		8.32	8.22						10.2	
Comment																	Equipment Failure						Damaged gas tap	Destroyed				





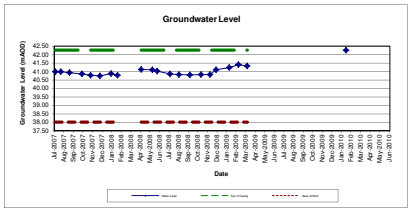
Ness Farm Landfill
Field Monitoring Sheet

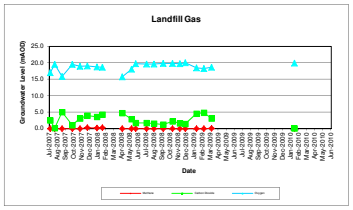
Sampling Location	**N70**	(Sept mon)	(Dec Mon)																				
Type Of Sample Required	Groundwater	19/10/10	12/01/11	31/03/11	21/06/11	07/09/11	06/12/11	01/03/12	06/06/12	03/09/12	04/12/12	11/03/13	04/06/13	02/09/13	03/12/13	05/03/14	04/06/14	02/09/14	02/12/14	02/06/15	02/12/15	27/06/16
Determinand	Units																					
Water Level																						
Water level to top of casing	m	2.32	2.32	2.32	2.35	2.35	2.37	2.40	2.39	1.68	3.68	2.39	2.53	2.55	2.63	2.67	2.75	2.77	2.79	2.84	2.82	
Borehole depth to top of casing	m	5.85	5.90	5.90		5.92	6.09	6.00	6.10	5.98	6.02	6.01	6.02	6.03	6.02	6.01	6.02	6.04	6	6.08	6.07	
Top of casing relative to Ordnance Datum Level	m	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	40.49	
Water level relative to Ordnance Datum	m	38.17	38.17	38.17	38.14	38.14	38.12		38.10	38.81	36.81	38.10	37.96	37.94	37.86	37.82	37.74	37.72	37.70	37.65	37.67	
Calculated purge volume	litres																					
Base of Well to Ordnance Datum	m	34.64	34.59	34.59	40.49	34.57	34.40		34.39	34.51	34.47	34.48	34.47	34.46	34.47	34.48	34.47	34.45	34.49	34.41	34.42	
Gas Concentrations																						
Date monitored	-	18/10/2010	10/01/2011	31/03/11	21/06/11	07/09/11	06/12/12	01/03/12	06/06/12	03/09/12	14/12/12	11/03/13	04/06/13	02/09/13	03/12/13	05/03/14	04/06/14	02/09/14	02/12/14	02/06/15	02/12/15	
Time of measurement	-	17:15	11:45	11:40	12:00	16:44	13:31	09:35	14:20	14:34	10:56	14:10	12:51	15:56	15:13	10:38	10:27	10:26	13:14	10:45	13:08	
Methane	% vol	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Carbon Dioxide	% vol	0.2	0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	0.1	<0.1	0.1	
Oxygen	% vol	20.1	20.9	20.2	20.9	20.7	21.1	21.0	20.3	20.3	20.8	20.8	20.1	21	20.7	20.7	20.4	20.1	20.7	20.1	20.7	
Atmospheric Pressure	mbar	998	999	986	1005	993	997	1017	995	1015	1000	1020	1028	984	1018	1008	1003	1021	1021	982	1002	
Gas Pressure	mbar	-0.04	-0.03	-0.01	0.00	-0.03	<0.1	0.02	0.09	-0.02	<0.05	-0.16	-0.05	0.08	0.27	-0.18	-0.12	-0.03	0.16	0.02	-0.02	
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	-0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	-0.1		0.2	-0.2	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	
Insitu Liquid Determinations																						
pH	pH units					7.1	7.1	7.0	6.9	7.0	7.3		6.9	7.0	7.1	7	7	7	7	7.2	7.3	6.9
Electrical Conductivity	µS/cm					5540	4890	6400	5950	1530	925		6810	3130	2300	1460	5560	1590	805	1370	755	1140
Dissolved Oxygen	mg/l					2.1	3.2	2.6	<1.0	3.4	7.5		1.2	5.1	5.2	9.7	2.9	5.4	8.1	6.93	9.4	6.45
Temperature	°C	11.8		8.9		14.0	9.9	9.0	9.9	14.5	7.2	6.9	10.3	14.7	9.7	8.1	11.1	13.7	10.1	10.9	9.5	12.8
Comment							Casing cracked		Spot sample taken										Thistles/nettles dying off			Gas and level measurement missed

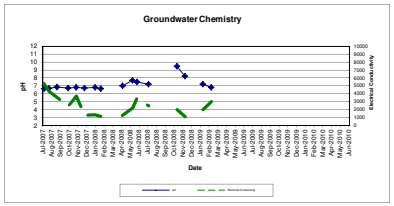


Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N71																									
Type Of Sample Required	Groundwater	24/07/07	10/08/07	07/09/07	16/10/07	13/11/07	12/12/07	17/01/08	06/02/08	12/03/08	22/04/08	27/05/08	11/06/08	22/07/08	20/08/08	23/09/08	29/10/08	26/11/08	16/12/08	27/01/09	25/02/09	25/03/09	24/06/09	30/09/09	02/02/10	Not monitored
Determinand	Units																									
Water Level																										
Water level to top of casing	m	1.28	1.27	1.33	1.40	1.48	1.52	1.38	1.48		1.15	1.17	1.24	1.40	1.44	1.47	1.45	1.45	1.16	1.02	0.85	0.93			0.00	
Borehole depth to top of casing	m	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25		4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25			4.25	
Top of casing relative to Ordnance Datum Level	m	42.27	42.27	42.27	42.27	42.27	42.27	42.27	42.27		42.27	42.27	42.27	42.27	42.27	42.27	42.27	42.27	42.27	42.27	42.27	42.27			42.27	
Water level relative to Ordnance Datum	m	40.99	41.00	40.94	40.87	40.79	40.75	40.89	40.79		41.12	41.10	41.03	40.87	40.83	40.80	40.82	40.82	41.11	41.25	41.42	41.34			42.27	
Calculated purge volume	litres	18.00	17.00	16.00	16.00	16.00	16.00	17.00	22.16		24.80	24.64	24.08	22.80	22.48	22.24	22.40	22.40	24.72	25.84	27.20	26.56			34.00	
Base of Well to Ordnance Datum	m	38.02	38.02	38.02	38.02	38.02	38.02	38.02	38.02		38.02	38.02	38.02	38.02	38.02	38.02	38.02	38.02	38.02	38.02	38.02	38.02			38.02	
Gas Concentrations																										
Date monitored	-	24/07/2007	10/08/2007	07/09/2007	16/10/2007	13/11/2007	12/12/2007	17/01/2008	06/02/2008	12/03/2008	22/04/2008	27/05/2008	11/06/2008	22/07/2008	20/08/2008	23/09/2008	29/10/2008	26/11/2008	16/12/2008	27/01/2009	25/02/2009	25/03/2009			02/02/2010	
Time of measurement	-	10:42	10:40	10:55	10:45	11:15	15:20	12:30	16:05					00:00	16:00	03:50	13:40	12:00	07:55	11:31	15:47	15:34			06:00	
Methane	% vol	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.3		0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1			0.0	
Carbon Dioxide	% vol	2.5	0.2	5.0	1.0	3.1	4.0	3.6	4.2		4.7	2.9	1.7	1.7	1.5	1.2	2.2	1.6	1.4	4.5	4.8	3.1			0.1	
Oxygen	% vol	17.0	19.5	15.8	19.5	18.9	19.0	18.7	18.6		15.7	18.1	19.7	19.6	19.6	19.8	19.8	19.7	20.0	18.4	18.2	18.6			19.9	
Atmospheric Pressure	mbar	997	1010	1021	996	1003	1025	982	1010		1015	1016	1010	1004	991	1019	993	1015	1001	1011	1005	995			1005	
Gas Pressure	mbar	2.6	<0.1	-0.3	2.4	-0.7	-1.7	-2.4	-0.8		-9.7	-1.8	-1.3	-0.7	-1.5	-6.2	-1.1	-2.03	5.62	-5.32	-4.23	-6			0.04	
Gas Flow Rate	l/hr	-1	-1.3	<0.1	-1.3	-0.6	-2.1	-1.7	-1.2			-2.6	-3.3	-3.2	-4	-6.5	-1.1	-3.9	4.4	-6.1	-5.4	-6.4			0	
Insitu Liquid Determinations																										
pH	pH units	6.66	6.7	6.83	6.72	6.79	6.74	6.81	6.63		7	7.7	7.5	7.2			9.48	8.2		7.22	6.81					
Electrical Conductivity	µS/cm	5280	4310	3510	2450	3670	1282	1350	1126		1270	2190	3380	2490			1983	1090		2006	3019					
Dissolved Oxygen	mg/l	1.22	1.66	6.43	7.32	4.84	1.82	2.25	2.32								1.09			0.27	1.37					
Temperature	℃	13.3	14	14.8	13.1	12.1	9.2	9.1	9.1		8	9	10	9			11.47	8		7.78	8.4					
Comment										No access bull in field													DESTROYED	DESTROYED		

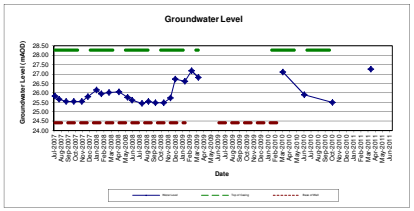


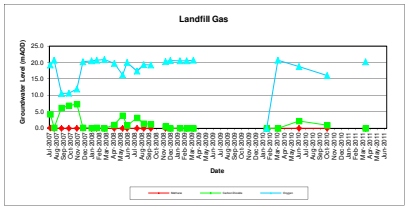


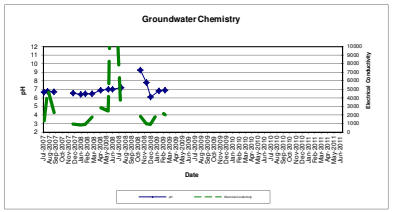


Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N72																									
Type Of Sample Required	Groundwater	24/07/07	10/08/07	10/09/07	12/10/07	15/11/07	11/12/07	17/01/08	07/02/08	11/03/08	22/04/08	28/05/08	17/06/08	29/07/08	26/08/08	25/09/08	30/10/08	28/11/08	18/12/08	28/01/09	26/02/09	26/03/09	23/06/09	30/10/09	02/02/10	22/03/10
Determinand	Units																									
Water Level																										
Water level to top of casing	m	2.43	2.61	2.73	2.73	2.72	2.47	2.11	2.31	2.25	2.21	2.51	2.65	2.82	2.73	2.80	2.80	2.54	1.53	1.66	1.09	1.45			DRY	1.15
Borehole depth to top of casing	m	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85			3.85	3.84
Top of casing relative to Ordnance Datum Level	m	28.27	28.27	28.27	28.27	28.27	28.27	28.27	28.27	28.27	28.27	28.27	28.27	28.27	28.27	28.27	28.27	28.27	28.27	28.27	28.27	28.27			28.27	28.27
Water level relative to Ordnance Datum	m	25.84	25.66	25.54	25.54	25.55	25.80	26.16	25.96	26.02	26.06	25.76	25.62	25.45	25.54	25.47	25.47	25.73	26.74	26.61	27.18	26.82				27.12
Calculated purge volume	litres	12.00	10.00	N/A	N/A	N/A	12.00	14.00	12	13	13	11	10	8	9	8	8.40	10.48	18.56	17.52	22.08	19.20			30.80	
Base of Well to Ordnance Datum	m	24.42	24.42	24.42	24.42	24.42	24.42	24.42	24.42	24.42	24.42	24.42	24.42	24.42	24.42	24.42	24.42	24.42	24.42	24.42	24.42	24.42			24.42	24.42
Gas Concentrations																										
Date monitored	-	24/07/2007	10/08/2007	10/09/2007	12/10/2007	15/11/2007	11/12/2007	17/01/2008	07/02/2008	11/03/2008	22/04/2008	28/05/2008	17/06/2008	29/07/2008	26/08/2008	25/09/2008	30/10/2008	28/11/2008	18/12/2008	28/01/2009	26/02/2009	26/03/2009			02/02/2010	22/03/2010
Time of measurement	-	13:30	13:54	11:00	12:00	14:15	11:55	11:00	13:15	14:25				00:00	14:54	12:57		06:43	07:40	07:40	11:06	15:27			07:26	15:05
Methane	% vol	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	<0.1
Carbon Dioxide	% vol	4.2	0.2	6.2	6.9	7.4	0.2	0.1	0.2	0.0	1.0	3.9	0.8	3.2	1.4	1.2		0.6	0.0	0.1	0.0	0.0			0.0	<0.1
Oxygen	% vol	19.2	20.7	10.6	10.7	11.9	20.2	20.5	20.7	20.9	19.7	16.2	20	17.4	19.3	19.2		20.3	20.6	20.5	20.5	20.7			0.0	20.7
Atmospheric Pressure	mbar	999	1010	1012	1008	1015	1025	983	981	967	1011	1005	998	1000	998	1025		998	1001	1014	1013	983			0	1000
Gas Pressure	mbar		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		0.13	-0.01	0.03	0.03	0.02			0	+/-0.01
Gas Flow Rate	l/hr		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	0.1	<0.1	<0.1	<0.1			0	+/-0.1
Insitu Liquid Determinations																										
pH	pH units	6.67	6.78	6.72			6.56	6.39	6.47	6.48	6.9	7	7	7.2			9.24	7.8	6.09	6.82	6.88					
Electrical Conductivity	µS/cm	1305	5040	2293			956	827	920	1739	2833	2490	24540	2320			1821	977	893	2524	2031					
Dissolved Oxygen	mg/l	2.22	2.31	2.25			8.48	8.64	9.26	6.02							2.08		8.2	0	3.04					
Temperature	℃	13.5	14.3	14			10.6	10.4	10.5	9.9	8	8	9	11			11.22	7	7.59	8.68	9.02					
Comment		Venting		Spot sample													Equipment Failure						SIEZED	SIEZED	SIEZED	







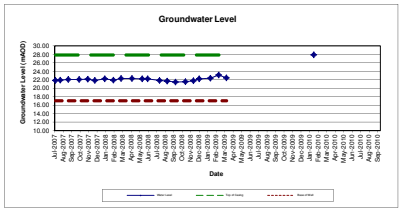
Fairhurst Partners
Environmental Monitoring
June 2016

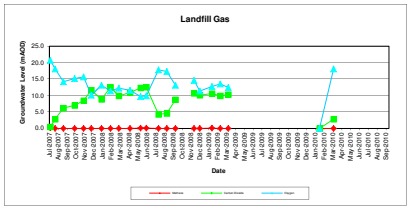
Ness Farm Landfill
Field Monitoring Sheet

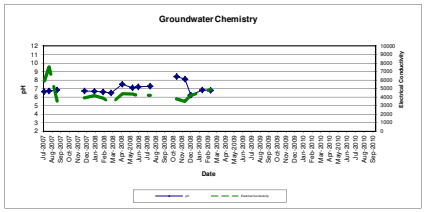
Sampling Location	**N72**		(Sept mon)	(Dec Mon)		Well removed as part of Phase 3 restoration works
Type Of Sample Required	Groundwater	21/06/10	19/10/10	13/01/11	01/04/11	
Determinand	Units					
Water Level						
Water level to top of casing	m	2.37	2.77		1.00	
Borehole depth to top of casing	m	3.86	3.85		3.83	
Top of casing relative to Ordnance Datum Level	m	28.27	28.27		28.27	
Water level relative to Ordnance Datum	m	25.90	25.50		27.27	
Calculated purge volume	litres					
Base of Well to Ordnance Datum	m	24.41	24.42		24.44	
Gas Concentrations						
Date monitored	-	21/06/2010	19/10/2010	13/01/2011	01/04/11	
Time of measurement	-	16:23	15:55	11:20	11:05	
Methane	% vol	<0.1	<0.1		<0.1	
Carbon Dioxide	% vol	2.2	0.9		<0.1	
Oxygen	% vol	18.7	16.0		20.2	
Atmospheric Pressure	mbar	1017	1001		1002	
Gas Pressure	mbar	+/-0.01	-			
Gas Flow Rate	l/hr	+/-0.1	-			
Insitu Liquid Determinations						
pH	pH units					
Electrical Conductivity	µS/cm					
Dissolved Oxygen	mg/l					
Temperature	℃	12.9			10.4	
Comment			Tap broken, no pressure readings taken	Tap broken	Tap broken	

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N73																									
Type Of Sample Required	Groundwater	23/07/07	09/08/07	06/09/07	15/10/07	15/11/07	11/12/07	15/01/08	15/02/08	14/03/08	22/04/08	28/05/08	17/06/08	29/07/08	26/08/08	25/09/08	30/10/08	28/11/08	18/12/08	28/01/09	26/02/09	26/03/09	23/06/09	30/10/09	02/02/10	22/03/10
Determinand	Units																									
Water Level																										
Water level to top of casing	m	6.03	5.97	5.80	5.80	5.74	6.04	5.60	5.91	5.53	5.59	5.61	5.67	5.98	6.13	6.36	6.33	6.10	5.66	5.48	4.72	5.41			0.00	
Borehole depth to top of casing	m	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85			10.85	
Top of casing relative to Ordnance Datum Level	m	27.88	27.88	27.88	27.88	27.88	27.88	27.88	27.88	27.88	27.88	27.88	27.88	27.88	27.88	27.88	27.88	27.88	27.88	27.88	27.88	27.88			27.88	
Water level relative to Ordnance Datum	m	21.85	21.91	22.08	22.08	22.14	21.84	22.28	21.97	22.35	22.29	22.27	22.21	21.90	21.75	21.52	21.55	21.78	22.22	22.40	23.16	22.47			27.88	
Calculated purge volume	litres	48.00	47.00	48.00	N/A	N/A	48.00	50.00	39.52	42.56	42.08	41.92	41.44	38.96	37.76	35.92	36.16	38.00	41.52	42.96	49.04	43.52			86.80	
Base of Well to Ordnance Datum	m	17.03	17.03	17.03	17.03	17.03	17.03	17.03	17.03	17.03	17.03	17.03	17.03	17.03	17.03	17.03	17.03	17.03	17.03	17.03	17.03	17.03			17.03	
Gas Concentrations																										
Date monitored	-	23/07/2007	09/08/2007	06/09/2007	15/10/2007	15/11/2007	11/12/2007	15/01/2008	15/02/2008	14/03/2008	22/04/2008	28/05/2008	17/06/2008	29/07/2008	26/08/2008	25/09/2008	30/10/2008	28/11/2008	18/12/2008	28/01/2009	26/02/2009	26/03/2009	23/06/2009		02/02/2010	22.03.10
Time of measurement	-	13:20	14:07	14:00	13:55	15:30	14:53	10:50	11:30	11:40				00:00	14:00	04:19		13:12	08:38	10:33	10:18	14:49			00:43	17:20
Methane	% vol	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0		0.0	0.0	0.1	0.0	0.0			0.0	<0.1
Carbon Dioxide	% vol	0.5	2.8	6.2	7.0	8.4	11.6	8.8	12.5	9.9	10.9	12.3	12.5	4.2	4.5	8.7		10.7	10.1	10.6	9.9	10.3			0.0	2.8
Oxygen	% vol	20.7	18.1	14.2	15.1	15.6	10.1	13.1	11.3	12.2	11.5	9.7	9.9	17.8	17.3	13.1		14.6	11.3	12.7	13.5	12.4			0.0	18.1
Atmospheric Pressure	mbar	999	1016	1025	997	1015	1023	979	1008	1002	1011	1005	996	1000	999	1024		999	1000	1014	1013	985			0	1000
Gas Pressure	mbar	0.4	<0.1	<0.1	<0.1	<0.1	1.6	1.6	0.9	1.5	0.7	<0.1	<0.1	<0.1	<0.1	<0.1		-0.25	0	0.67	0.54	0.1			0	0.03
Gas Flow Rate	l/hr	<0.1	-0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-1.8	-0.2	<0.1	<0.1		<0.1	0.1	-1.6	-0.5	-2.4			0	+/-0.1
Insitu Liquid Determinations																										
pH	pH units	6.65	6.71	6.82			6.72	6.7	6.62	6.49	7.5	7.1	7.2	7.3			8.4	8.1	6.23	6.82	6.81					
Electrical Conductivity	µS/cm	5920	7550	3550			3930	4190	3870	3261	4410	4360	4170	4230			3823	3510	4217	4603	4889					
Dissolved Oxygen	mg/l	1.38	1.54	6.53			6.51	5.34	6.02	6.84							0.64		3.69	0	1.2					
Temperature	ºC	13.6	13.7	13.7			13.4	13.2	13.2	13.5	8	11	12	11			12.34	9	12.3	12.69	13.38					
Comment																	Equipment failure						SIEZED	SIEZED		BH blocked with Mud/Clay, unable to dip.







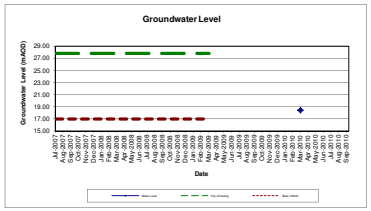
Ness Farm Landfill
Field Monitoring Sheet

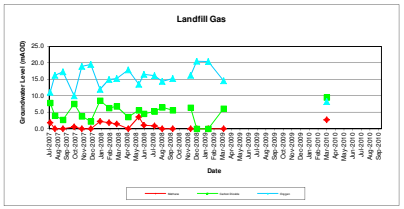
Sampling Location	N73	Well removed as part of Phase 2 restoration works
Type Of Sample Required	Groundwater	
Determinand	Units	
Water Level		
Water level to top of casing	m	
Borehole depth to top of casing	m	
Top of casing relative to Ordnance Datum Level	m	
Water level relative to Ordnance Datum	m	
Calculated purge volume	litres	
Base of Well to Ordnance Datum	m	
Gas Concentrations		
Date monitored	-	
Time of measurement	-	
Methane	% vol	
Carbon Dioxide	% vol	
Oxygen	% vol	
Atmospheric Pressure	mbar	
Gas Pressure	mbar	
Gas Flow Rate	l/hr	
Insitu Liquid Determinations		
pH	pH units	
Electrical Conductivity	µS/cm	
Dissolved Oxygen	mg/l	
Temperature	℃	
Comment		

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N74**																								
Type Of Sample Required	Groundwater	23/07/07	09/08/07	06/09/07	15/10/07	12/11/07	13/12/07	15/01/08	15/02/08	13/03/08	22/04/08	29/05/08	17/06/08	24/07/08	20/08/08	26/09/08	29/10/08	28/11/08	19/12/08	29/01/09	23/03/09	22/06/09	30/09/09	30/10/09	20/03/10
Determinand	Units																								
Water Level																									
Water level to top of casing	m	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY				9.39
Borehole depth to top of casing	m	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85				10.85
Top of casing relative to Ordnance Datum Level	m	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81	27.81				27.81
Water level relative to Ordnance Datum	m																								18.42
Calculated purge volume	litres																								
Base of Well to Ordnance Datum	m	16.96	16.96	16.96	16.96	16.96	16.96	16.96	16.96	16.96	16.96	16.96	16.96	16.96	16.96	16.96	16.96	16.96	16.96	16.96	16.96				16.96
Gas Concentrations																									
Date monitored	-	23/07/2007	09/08/2007	06/09/2007	15/10/2007	12/11/2007	13/12/2007	15/01/2008	15/02/2008	13/03/2008	22/04/2008	29/05/2008	17/06/2008	24/07/2008	20/08/2008	26/09/2008	29/10/2008	28/11/2008	19/12/2008	29/01/2009	23/03/2009				24.03.10
Time of measurement	-	14:46	15:35	15:35	11:50	14:00	12:00	11:40	13:10	14:20				00:00	14:28	13:55		04:33	10:04	04:33	06:28				11:20
Methane	% vol	1.8	0.0	0.0	0.6	0.0	0.0	2.2	1.8	1.4	0.0	3.6	1	0.8	0.0	0.0		0.0	0.0	0.0	0.0				2.7
Carbon Dioxide	% vol	7.8	4.0	2.7	7.6	3.8	2.2	8.5	6.3	6.8	3.6	5.6	4.5	5.2	6.5	5.6		6.4	0.0	0.0	6.1				9.5
Oxygen	% vol	11.1	16.2	17.3	10.0	18.9	19.5	11.9	14.9	15.2	17.9	13.5	16.5	16.1	14.4	15.2		16.2	20.5	20.4	14.6				8.2
Atmospheric Pressure	mbar	999	1016	1025	997	1018	1027	978	1008	992	1013	1006	996	1010	993	1022		998	1006	1022	1009				999
Gas Pressure	mbar	0.2	<0.1	<0.1	<0.1	<0.1	2.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1		0.04	0	-0.13	0.04				-0.03
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	0.1	<0.1	<0.1				+/-0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment																	Equipment Failure					SIEZED	SIEZED	SIEZED	

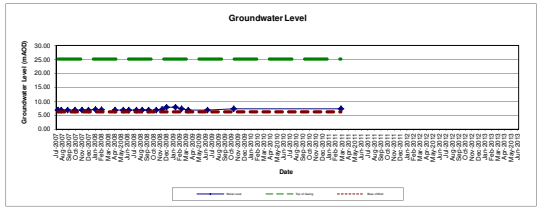
Well removed as part of Phase 2 restoration works

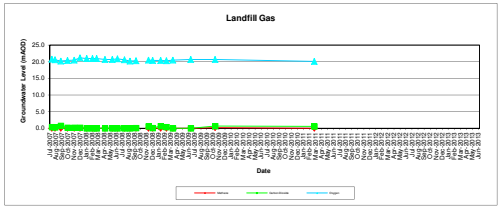


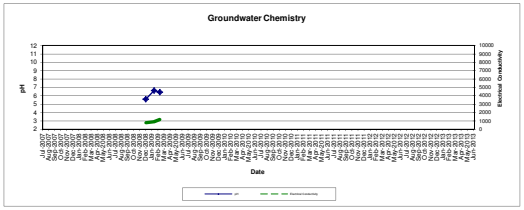


Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N75																									
Type Of Sample Required	Groundwater	30/07/07	14/08/07	13/09/07	17/10/07	19/11/07	19/12/07	21/01/08	19/02/08	12/03/08	22/04/08	30/05/08	24/06/08	30/07/08	27/08/08	26/09/08	31/10/08	28/11/08	19/12/08	29/01/09	27/02/09	31/03/09	29/06/09	30/10/09	15/03/11	No Longer Monitored
Determinand	Units																									
Water Level																										
Water level to top of casing	m	18.18	18.18	18.18	18.19	18.19	18.18	18.05	18.10	DRY	18.19	18.20	18.20	18.19	18.18	18.18	18.18	17.98	17.23	17.21	17.80	18.18	18.18	17.78	17.75	
Borehole depth to top of casing	m	18.85	18.85	18.85	18.85	18.85	18.85	18.85	18.85	18.85	18.85	18.85	18.85	18.85	18.85	18.85	18.85	18.85	18.85	18.85	18.85	18.85	18.85	18.85	18.60	
Top of casing relative to Ordnance Datum Level	m	25.11	25.11	25.11	25.11	25.11	25.11	25.11	25.11	25.11	25.11	25.11	25.11	25.11	25.11	25.11	25.11	25.11	25.11	25.11	25.11	25.11	25.11	25.11	25.11	
Water level relative to Ordnance Datum	m	6.93	6.93	6.93	6.92	6.92	6.93	7.06	7.01		6.92	6.91	6.91	6.92	6.93	6.93	6.93	7.13	7.88	7.90	7.31	6.93	6.93	7.33	7.36	
Calculated purge volume	litres	0.00	0.00	0.00	N/A	N/A	0.00	4.00	6.00		5.28	5.20	5.20	5.28	5.36	5.36	5.36	6.96	12.96	13.12	8.40	5.36	5.36	8.56		
Base of Well to Ordnance Datum	m	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	
Gas Concentrations																										
Date monitored	-	30/07/2007	14/08/2007	13/09/2007	17/10/2007	19/11/2007	19/12/2007	21/01/2008	19/02/2008	12/03/2008	22/04/2008	30/05/2008	24/06/2008	30/07/2008	27/08/2008	26/09/2008	31/10/2008	28/11/2008	19/12/2008	29/01/2009	27/02/2009	31/03/2009	29/06/2009	30/10/2009	31/03/11		
Time of measurement	-	13:44	13:22	11:22	13:45	15:20	11:15	15:15	15:30	16:35				00:00	15:34	07:26		00:00	14:09	02:52	15:15	11:45	16:20	09:59	16:35	
Methane	% vol	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.2	<0.1	
Carbon Dioxide	% vol	0.4	0.3	0.8	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1		0.6	0.1	0.7	0.4	0.0	0.0	0.7	0.60	
Oxygen	% vol	20.8	20.6	20.2	20.4	20.5	21.2	21.0	21.0	21.0	20.7	20.7	20.9	20.6	20.2	20.3		20.5	20.4	20.4	20.3	20.5	20.7	20.7	20.1	
Atmospheric Pressure	mbar	1014	993	1015	1013	1012	1036	1002	996	983	1012	1011	1012	1003	1000	1019		1000	1010	1017	1014	1016	1015	1017	983	
Gas Pressure	mbar	<0.1	<0.1	<0.1	0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1		0.03	0.03	0.04	0.02	-0.03	-0.07	0.06	+0.13	
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1		<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	
Insitu Liquid Determinations																										
pH	pH units																		5.59	6.63	6.44					
Electrical Conductivity	µS/cm																		784	896	1175					
Dissolved Oxygen	mg/l																		4.37	5.55	3.57					
Temperature	℃																		8.79	9.55	9.96				10.2	
Comment		Insufficient water to purge	Insufficient water to purge	Insufficient water to purge			Insufficient water to purge	Insufficient water to purge	Insufficient water to purge	Insufficient water to purge	Insufficient water to purge						Equipment Failure									

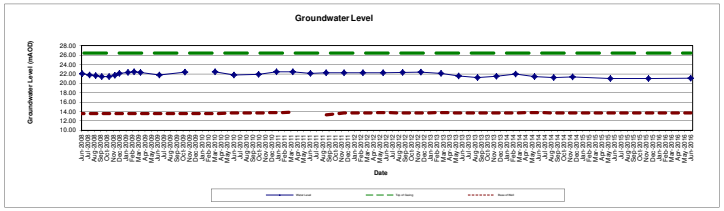


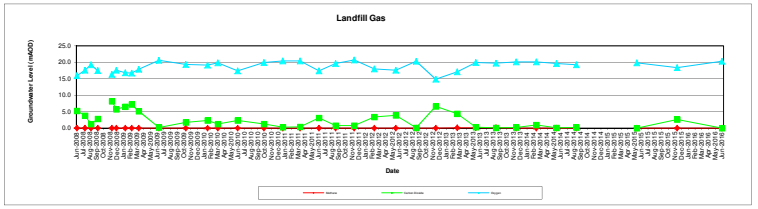




Ness Farm Landfill
Field Monitoring Sheet

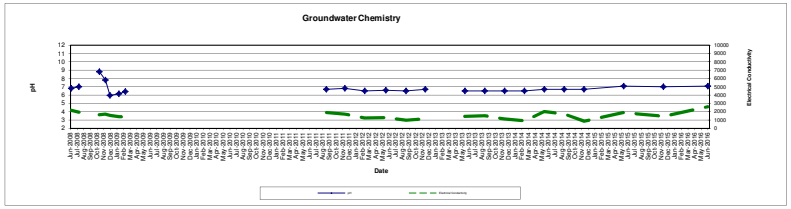
Sampling Location	N76																									
Type Of Sample Required	Groundwater	30/07/07	14/08/07	13/09/07	17/10/07	20/11/07	19/12/07	21/01/08	19/02/08	12/03/08	22/04/08	30/05/08	24/06/08	30/07/08	27/08/08	26/09/08	31/10/08	28/11/08	19/12/08	29/01/09	27/02/09	31/03/09	29/06/09	30/10/09	05/02/10	23/03/10
Determinand	Units																									
Water Level																										
Water level to top of casing	m	4.67	4.58	4.46	4.54	4.54	4.68	4.51	4.58	4.16	4.24	4.26	4.35	4.62	4.76	4.98	4.96	4.75	4.32	4.10	3.97	4.09	4.67	4.02	Dry	3.96
Borehole depth to top of casing	m	12.85	12.85	12.85	12.85	12.85	12.85	12.85	12.85	12.85	12.85	12.85	12.85	12.85	12.85	12.85	12.85	12.85	12.85	12.85	12.85	12.85	12.85	12.85	12.85	12.70
Top of casing relative to Ordnance Datum Level	m	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42
Water level relative to Ordnance Datum	m	21.75	21.84	21.96	21.88	21.88	21.74	21.91	21.84	22.26	22.18	22.16	22.07	21.80	21.66	21.44	21.46	21.67	22.10	22.32	22.45	22.33	21.75	22.40		22.46
Calculated purge volume	litres	64.00	64.00	64.00	N/A	N/A	64.00	66.00	66.16	69.52	68.88	68.72	68.00	65.84	64.72	62.96	63.12	64.80	68.24	70.00	71.04	70.08	65.44	70.64		
Base of Well to Ordnance Datum	m	13.57	13.57	13.57	13.57	13.57	13.57	13.57	13.57	13.57	13.57	13.57	13.57	13.57	13.57	13.57	13.57	13.57	13.57	13.57	13.57	13.57	13.57	13.57	13.57	13.57
Gas Concentrations																										
Date monitored	-	30/07/07	14/08/07	13/09/07	17/10/07	20/11/07	19/12/07	21/01/08	19/02/08	12/03/08	22/04/08	30/05/08	24/06/08	30/07/08	27/08/08	26/09/08	31/10/08	28/11/08	19/12/08	29/01/09	27/02/09	31/03/09	29/06/2009	30/10/2009	05/02/2010	23/03/2010
Time of measurement	-	14:10	13:39	11:45	14:00	11:50	11:45	15:50	15:45	16:10				00:00	15:46	04:19		02:09	04:33	05:45	15:23	11:57	16:26	10:30	09:21	13:30
Methane	% vol	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<0.1
Carbon Dioxide	% vol	0.0	7.4	3.5	6.7	7.9	4.5	6.3	5.5	2.0	4.4	5.5	5.2	3.8	1.2	2.8		8.1	5.7	6.5	7.2	5.1	0.2	1.7	2.3	1.2
Oxygen	% vol	20.7	10.7	17.2	15.5	15.8	18.2	18.0	18.3	19.6	18.5	15.9	15.9	17.6	19.2	17.5		16.3	17.6	16.8	16.7	17.9	20.6	19.3	19.1	19.8
Atmospheric Pressure	mbar	1014	993	1015	1013	1011	1035	1002	996	983	1012	1011		1002	1000	1019		1000	1013	1017	1014	1016	1015	1017	1018	1008
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1	<0.1	1.5	0.8	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		1.03	0.21	0.01	0.03	0.05	0	0.06	0.04	0.14
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0	+/-0.1
Insitu Liquid Determinations																										
pH	pH units	6.32	6.26	6.34			6.57	6.63	6.72	6.52	7.1	6.8	6.8	7			8.8	7.8	5.97	6.17	6.44					
Electrical Conductivity	µS/cm	2453	2154	1371			1721	1826	1634	1530	2200	2190	2190	1940			1631	1710	1539	1394	1365					
Dissolved Oxygen	mg/l	0.95	0.97	4.89			2.7	3.2	2.88	3.2							0.51		0.39	0.27	0.82					
Temperature	℃	11.2	11	11.4			9	8.8	8.9	9.2		9	9	8			9.99	7	9.48	9.84	9.83					
Comment		Cap not screwed on (venting)															Equipment Failure									





Ness Farm Landfill
Field Monitoring Sheet

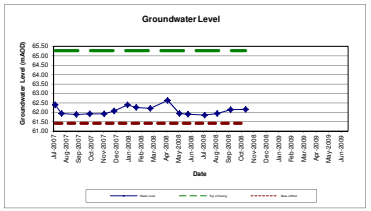
Sampling Location	**N76**		(Sept mon)	(Dec Mon)																				
Type Of Sample Required	Groundwater	21/06/10	18/10/10	12/01/11	31/03/11	24/06/11	07/09/11	01/12/11	01/03/12	06/06/12	07/09/12	04/12/12	11/03/13	03/06/13	02/09/13	02/12/13	03/03/14	02/06/14	01/09/14	01/12/14	01/06/15	01/12/15	20/06/16
Determinand	Units																						
Water Level																							
Water level to top of casing	m	4.62	4.51	3.94	3.95	4.33	4.21	4.17	4.20	4.16	4.09	4.07	4.32	4.89	5.20	4.95	4.48	4.99	5.19	5.06	5.4	5.43	5.31
Borehole depth to top of casing	m	12.73	12.70	12.68	12.61		13.10	12.70	12.74	12.63	12.71	12.73	12.68	12.70	12.71	12.7	12.7	12.67	12.71	12.71	12.72	12.72	12.75
Top of casing relative to Ordnance Datum Level	m	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42	26.42
Water level relative to Ordnance Datum	m	21.80	21.91	22.48	22.47	22.09	22.21	22.25	22.22	22.26	22.33	22.35	22.10	21.53	21.22	21.47	21.94	21.43	21.23	21.36	21.02	20.99	21.11
Calculated purge volume	litres																						
Base of Well to Ordnance Datum	m	13.69	13.72	13.74	13.81		13.32	13.72	13.68	13.79	13.71	13.69	13.74	13.72	13.71	13.72	13.72	13.75	13.71	13.71	13.70	13.70	13.67
Gas Concentrations																							
Date monitored	-	21/06/2010	18/10/2010	12/01/2011	31/03/11	24/06/2011	07/09/11	01/12/12	01/03/12	06/06/12	07/09/12	04/12/12	11/03/13	03/06/13	02/09/13	02/12/13	03/03/14	02/06/14	01/09/14		01/06/15	01/12/15	20/06/16
Time of measurement	-	14:23	17:45	12:10	16:40	15.12	15:15	13:51	13:06	12:03	14:08	14:45	12:55	13:49	13:56	12:36	13:55	12:42	14:20		14:52	14:30	14:15
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1
Carbon Dioxide	% vol	2.3	1.2	0.3	0.4	3.1	0.7	0.7	3.4	3.9	0.1	6.6	4.3	0.3	0.1	0.2	0.9	0.1	0.2		<0.1	2.6	<0.1
Oxygen	% vol	17.4	19.9	20.4	20.4	17.4	19.6	20.7	18.0	17.6	20.3	14.8	17.1	19.9	19.7	20.1	20.1	19.6	19.2		19.8	18.3	20.3
Atmospheric Pressure	mbar	1018	1000	1000	983	1016	995	1000	1020	999	1015	999	1022	1029	1013	1024	985	1012	1015		999	1001	1002
Gas Pressure	mbar	+/-0.01	-0.16	-6.8	0.01	-0.08	0.03	0.18	0.02	0.26	0.03	-0.22	-0.14	<0.01	0.22	-0.09	0.01	-0.09	0.24		0.08	0.02	<0.01
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	0.0	-0.1	<0.1	-0.1	0.2	0.1	<0.1	<0.1	0.3	0.3	<0.1	0.3	<0.1	<0.1	0.3		<0.1	0.3	<0.1
Insitu Liquid Determinations																							
pH	pH units						6.7	6.8	6.5	6.6	6.5	6.7		6.5	6.5	6.5	6.5	6.7	6.7	6.7	7.1	7	7.1
Electrical Conductivity	µS/cm						1900	1720	1260	1300	960	1150		1450	1520	1140	900	2000	1720	865	1920	1450	2600
Dissolved Oxygen	mg/l						4.3	3.5	3.9	5.5	4.7	7.0		3.0	4.2	7.5	6.9	5	5.5	4	3.94	4	4.95
Temperature	ºC	9.8	11.7				11.0	10.2	10.7	9.9	12.0	10.1	9.5	11.2	12.9	10.1	10.2	12.3	12.4	10.7	10.9	9.7	10.8
Comment																							

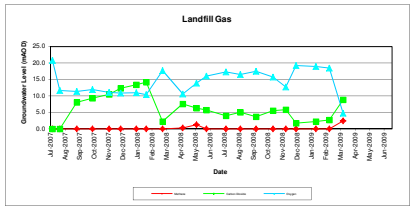


Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N77																					
Type Of Sample Required	None	24/07/07	08/08/07	13/09/07	16/10/07	20/11/07	14/12/07	16/01/08	06/02/08	11/03/08	22/04/08	21/05/08	11/06/08	22/07/08	21/08/08	23/09/08	29/10/08	25/11/08	16/12/08	27/01/09	24/02/09	25/03/09
Determinand	Units																					
Water Level																						
Water level to top of casing	m	2.87	3.34	3.38	3.36	3.36	3.20	2.88	3.02	3.07	2.64	3.34	3.37	3.43	3.34	3.14	3.11					
Borehole depth to top of casing	m	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85					
Top of casing relative to Ordnance Datum Level	m	65.27	65.27	65.27	65.27	65.27	65.27	65.27	65.27	65.27	65.27	65.27	65.27	65.27	65.27	65.27	65.27					
Water level relative to Ordnance Datum	m	62.40	61.93	61.89	61.91	61.91	62.07	62.39	62.25	62.20	62.63	61.93	61.90	61.84	61.93	62.13	62.16					
Calculated purge volume	litres	N/A	N/A	N/A					6.64	6.24	9.68	4.08	3.84	3.36	4.08	5.68	5.92					
Base of Well to Ordnance Datum	m	61.42	61.42	61.42	61.42	61.42	61.42	61.42	61.42	61.42	61.42	61.42	61.42	61.42	61.42	61.42	61.42					
Gas Concentrations																						
Date monitored	-	25/07/2007	08/08/2007	13/09/07	16/10/07	20/11/07	14/12/07	16/01/08	06/02/08	11/03/08	22/04/08	21/05/08	11/06/08	22/07/08	21/08/08	23/09/08	29/10/08	25/11/08	16/12/08	27/01/09	24/02/09	25/03/09
Time of measurement	-	12:35	12:35	13:55	15:55	15:25	15:15	14:20	12:30	14:05				00:00	12:14	04:33	04:04	07:26	09:36	06:00	15:55	14:01
Methane	% vol	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.2	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4
Carbon Dioxide	% vol	0.0	7.2.	8.0	9.3	10.5	12.3	13.4	14.2	2.2	7.6	6.3	5.7	4.0	5.0	3.7	5.5	5.8	1.7	2.2	2.7	8.8
Oxygen	% vol	20.8	11.6	11.3	11.9	11.1	10.9	11.0	10.4	17.7	10.6	13.9	16	17.3	16.5	17.5	15.7	12.7	19.2	18.9	18.4	4.7
Atmospheric Pressure	mbar	994	1012	1013	995	1009	1023	988	1009	964	1009	1008	1008	1002	994	1017	992	1019	999	1007	1022	991
Gas Pressure	mbar	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0	-0.04	0.04	0.7	0.11
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																						
pH	pH units										5.8											
Electrical Conductivity	µS/cm										404											
Dissolved Oxygen	mg/l																					
Temperature	ºC										9											
Comment								Insufficient water to purge	Insufficient water to purge	Insufficient water to purge									Well damaged	Well damaged	Well damaged	Well damaged

Well removed as part of Phase 1 Restoration Works

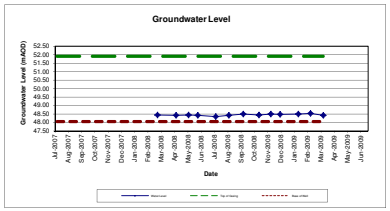


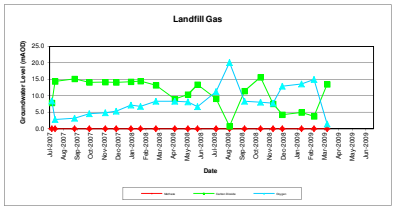


Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N78																						
Type Of Sample Required	None	25/07/07	01/08/07	13/09/07	16/10/07	20/11/07	14/12/07	16/01/08	06/02/08	11/03/08	22/04/08	21/05/08	11/06/08	22/07/08	21/08/08	23/09/08	29/10/08	25/11/08	16/12/08	27/01/09	24/02/09	25/03/09	
Determinand	Units																						
Water Level																							
Water level to top of casing	m	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	3.47	3.48	3.46	3.48	3.57	3.49	3.42	3.47	3.42	3.43	3.41	3.38	3.49	
Borehole depth to top of casing	m	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	
Top of casing relative to Ordnance Datum Level	m	51.91	51.91	51.91	51.91	51.91	51.91	51.91	51.91	51.91	51.91	51.91	51.91	51.91	51.91	51.91	51.91	51.91	51.91	51.91	51.91	51.91	
Water level relative to Ordnance Datum	m									48.44	48.43	48.45	48.43	48.34	48.42	48.49	48.44	48.49	48.48	48.50	48.53	48.42	
Calculated purge volume	litres									3.04	2.96	3.12	2.96	2.24	2.88	3.44	3.04	3.44	3.36	3.52	3.76	2.88	
Base of Well to Ordnance Datum	m	48.06	48.06	48.06	48.06	48.06	48.06	48.06	48.06	48.06	48.06	48.06	48.06	48.06	48.06	48.06	48.06	48.06	48.06	48.06	48.06	48.06	
Gas Concentrations																							
Date monitored	-	25/07/2007	08/08/2007	13/09/2007	16/10/2007	20/11/2007	14/12/2007	16/01/2008	06/02/2008	11/03/2008	22/04/2008	21/05/2008	11/06/2008	22/07/2008	21/08/2008	23/09/2008	29/10/2008	25/11/2008	16/12/2008	27/01/2009	24/02/2009	25/03/2009	
Time of measurement	-	12:15	12:25	14:02	15:45	15:10	15:25	14:30	12:15	13:55				00:00	11:51	10:48	02:09	04:19	06:14	03:21	15:44	13:51	
Methane	% vol	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.l	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Carbon Dioxide	% vol	7.8	14.4	15.1	14.1	14.2	14.1	14.3	14.5	13.2	9.0	10.4	13.4	9.1	0.7	11.4	15.6	7.6	4.2	4.9	3.8	13.5	
Oxygen	% vol	8.4	2.8	3.2	4.5	4.8	5.3	7.2	6.8	8.3	8.3	8.1	6.7	11.2	20.1	8.3	8.0	7.7	12.9	13.6	14.9	1.4	
Atmospheric Pressure	mbar	996	1012	1014	996	1010	1024	989	1009	965	1009	1008		1003	995	1020	992	1020	1000	1008	1023	992	
Gas Pressure	mbar	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0	0	0.02	-0.01	0.23	
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.8	
Insitu Liquid Determinations																							
pH	pH units																						
Electrical Conductivity	µS/cm																						
Dissolved Oxygen	mg/l																						
Temperature	℃																						
Comment								Insufficient to purge	Insufficient to purge	Insufficient to purge	Insufficient to purge												

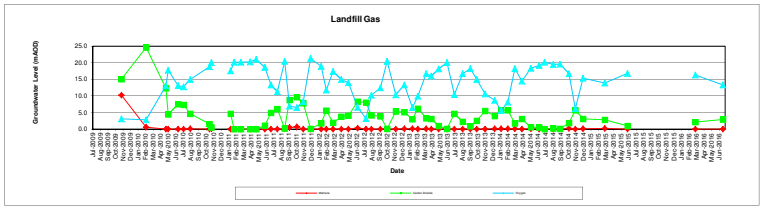
Well removed as part of Phase 1 Restoration Works

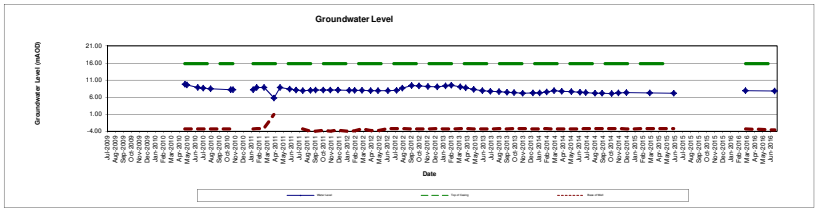




Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N79								(Sept mon)			(Dec Mon)													
Type Of Sample Required	None	29/10/09	05/02/10	27/04/10	05/05/10	15/06/10	06/07/10	03/08/10	19/10/10	27/10/10	15/11/10	12/01/11	26/01/11	22/02/11	01/04/11	25/04/11	31/05/11	24/06/11	20/07/11	18/08/11	07/09/11	06/10/11	02/11/11	01/12/11	13/01/12	02/02/12
Determinand	Units																								
Water Level																									
Water level to top of casing	m			5.98	6.17	6.95	7.12	7.28	7.62	7.57		7.62	6.91	6.91	10.00	6.97	7.44	7.70	7.85	7.79	7.72	7.73	7.65	7.70	7.76	7.78
Borehole depth to top of casing	m			19.10	19.04	19.03	19.04	19.03	19.10	19.12		19.10	19.00	19.00	14.85				19.08	19.69	19.71	19.54	19.71	19.47	19.78	19.62
Top of casing relative to Ordnance Datum Level	m			15.80	15.80	15.80	15.80	15.80	15.80	15.80		15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80
Water level relative to Ordnance Datum	m			9.82	9.63	8.85	8.68	8.52	8.18	8.23		8.18	8.89	8.89	5.80	8.83	8.36	8.10	7.95	8.01	8.08	8.07	8.15	8.10	8.04	8.02
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m			-3.30	-3.24	-3.23	-3.24	-3.23	-3.30	-3.32		-3.30	-3.20	-3.20	0.95				-3.28	-3.89	-3.91	-3.74	-3.91	-3.67	-3.98	-3.82
Gas Concentrations																										
Date monitored	-	29/10/2009	05/02/2010	26/04/2010	05/05/2010	15/06/2010	06/07/2010	03/08/2010	19/10/2010	27/10/2010		12/01/2011	26/01/2011	22/02/2011	01/04/11	25/04/11	31/05/11	24/06/11	20/07/11	18/08/11	07/09/11	06/10/11	02/11/11	01/12/11	13/01/12	02/02/12
Time of measurement	-	13:50	00:14	16:35	15:23	14:21	13:48	12:01	17:00	10:55		13:00	11:30	11:30	9:55	13:51	12:38	14:36	14:05	15:56	14:33	12:10	16:25	10:57	11:49	12:37
Methane	% vol	10.2	0.6	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.5	0.7	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	15.0	24.6	12.3	4.4	7.5	7.3	4.6	1.6	0.5		4.6	<0.1	<0.1	<0.1	<0.1	1.1	4.9	6.1	0.2	8.8	9.6	7.8	0.1	1.7	5.6
Oxygen	% vol	3.1	2.8	13.0	17.7	13.1	12.7	14.9	18.8	20.0		17.5	20.1	20.1	20.2	21.0	18.6	13.3	11.3	20.4	6.9	6.5	8.3	21.3	18.9	11.8
Atmospheric Pressure	mbar	1023	1021	1016	1023	1028	1016	1006	1001	1002		1000	1016	1016	1005	1029	1015	1017	1010	1015	996	993	1000	999	1034	1039
Gas Pressure	mbar	0.77	-0.08	-0.35	0.05	-0.66	0.01	+/-0.01	-0.1	0.04		-0.06	0.13	0.13	0.03	-0.04	0	0.00	-0.22	0.09	0.07	<0.01	<0.01	0.22	0.11	0.11
Gas Flow Rate	l/hr	<0.1	0	-0.3	-0.2	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1		+/-0.1	+/-0.1	+/-0.1	0.0	-0.2	-0.2	<0.1	-0.2	0.2	-0.2	<0.1	<0.1	-0.2	0.1	0.1
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	ºC																									
Comment											Monitoring visit not undertaken due to adverse weather					Tap found open				Tap open						





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N79**																										
Type Of Sample Required	None	01/03/12	03/04/12	02/05/12	08/06/12	11/07/12	02/08/12	07/09/12	04/10/12	08/11/12	13/12/12	14/01/13	05/02/13	11/03/13	01/04/13	01/05/13	03/06/13	03/07/13	05/08/13	05/09/13	01/10/13	04/11/13	13/12/13	07/01/14	03/02/14	03/03/14
Determinand	Units																										
Water Level																											
Water level to top of casing	m	7.74	7.88	7.88	7.85	7.81	7.14	6.35	6.46	6.63	6.75	6.45	6.28	6.76	7.07	7.48	7.86	8.06	8.16	8.34	8.47	8.6	8.54	8.52	8.29	7.85
Borehole depth to top of casing	m	19.04	19.50	19.54	18.99	19.01	18.95	19.03	19.08	19.05	19.02	19.03	19.05	19.02	19.01	19.04	19.03	19.03	19.01	19.05	19.02	19.02	19.04	19.04	19.02	19.03
Top of casing relative to Ordnance Datum Level	m	15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80
Water level relative to Ordnance Datum	m	8.06	7.92	7.92	7.95	7.99	8.66	9.45	9.34	9.17	9.05	9.35	9.52	9.04	8.73	8.32	7.94	7.74	7.64	7.46	7.33	7.20	7.26	7.28	7.51	7.95
Calculated purge volume	litres																										
Base of Well to Ordnance Datum	m	-3.24	-3.70	-3.74	-3.19	-3.21	-3.15	-3.23	-3.28	-3.25	-3.22	-3.23	-3.25	-3.22	-3.21	-3.24	-3.23	-3.23	-3.21	-3.25	-3.22	-3.22	-3.24	-3.24	-3.22	-3.23
Gas Concentrations																											
Date monitored	-	01/03/12	04/03/12	02/05/12	08/06/12	11/07/12	02/08/12	07/09/12	04/10/12	08/11/12	13/12/12	14/01/13	05/02/13	11/03/13	01/04/13	01/05/13	03/06/13	03/07/13	05/08/13	05/09/13	01/10/13	04/11/13	13/12/13	07/01/14	03/02/14	03/03/14
Time of measurement	-	11:29	12:04	16:51	15:37	15:17	10:03	15:05	10:43	16:39	02:24	10:37	10:33	11:07	09:23	10:31	11:14	10:49	10:46	15:07	14:15	10:39	10:41	10:32	10:29	11:34
Methane	% vol	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.1
Carbon Dioxide	% vol	1.9	3.8	4.1	8.3	8.0	4.2	3.9	0.1	5.3	5.1	3.0	6.2	3.3	3.1	1	0.1	4.6	2.2	0.9	2.5	5.5	4	5.7	5.7	1.7
Oxygen	% vol	17.3	14.9	14.0	6.6	3.2	10.2	12.4	20.4	10.3	13.3	6.5	9.9	16.7	16	18.1	20	10.4	16.7	18.2	14.9	10.6	8.7	5.6	8.1	18.2
Atmospheric Pressure	mbar	1020	1025	1026	994	1008	1003	1016	1001	1009	1007	1010	981	1023	1020	1017	1031	1003	1008	1011	1015	991	1008	985	1001	985
Gas Pressure	mbar	<0.01	-0.06	-0.21	-0.10	<0.01	-0.05	-0.02	0.28	0.22	<0.05	-0.08	-0.03	<0.01	0.19	0.02	-0.22	0.03	<0.01	0.12	0.12	0.28	-0.15	<0.01	<0.01	-0.03
Gas Flow Rate	l/hr	<0.1	<0.1	0.3	-0.2	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	-0.3	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																											
pH	pH units																										
Electrical Conductivity	µS/cm																										
Dissolved Oxygen	mg/l																										
Temperature	ºC																										
Comment																								Spongy	Spongy		

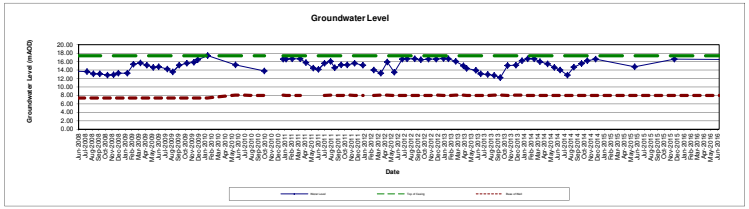
Fairhurst Partners
Environmental Monitoring

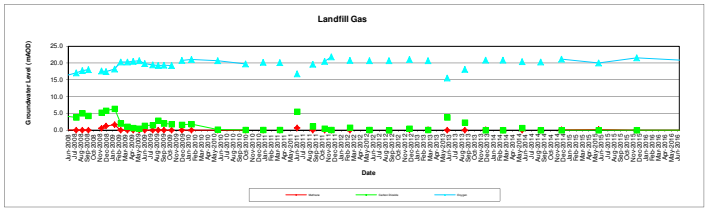
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N79**															
Type Of Sample Required	None	01/04/14	07/05/14	09/06/14	01/07/14	05/08/14	01/09/14	08/10/14	03/11/14	03/12/14	02/03/15	01/06/15	01/09/15	01/12/15	01/03/16	20/06/16
Determinand	Units															
Water Level																
Water level to top of casing	m	8.02	8.2	8.37	8.46	8.59	8.63	8.68	8.5	8.46	8.5	8.64			7.84	7.97
Borehole depth to top of casing	m	19.04	19.03	19.03	19.02	18.99	19.01	19.02	19.02	19.06	19.02	19.01			19.1	19.34
Top of casing relative to Ordnance Datum Level	m	15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80	15.80			15.80	15.80
Water level relative to Ordnance Datum	m	7.78	7.60	7.43	7.34	7.21	7.17	7.12	7.30	7.34	7.30	7.16			7.96	7.83
Calculated purge volume	litres															
Base of Well to Ordnance Datum	m	-3.24	-3.23	-3.23	-3.22	-3.19	-3.21	-3.22	-3.22	-3.26	-3.22	-3.21			-3.30	-3.54
Gas Concentrations																
Date monitored	-	01/04/14	07/05/14	09/06/14	01/07/14	05/08/14	01/09/14	08/10/14	03/11/14	03/12/14	02/03/15	01/06/15			01/03/16	20/06/16
Time of measurement	-	11:20	12:25	10:00	12:29	10:06	11:55	11:55	10:10	10:05	10:20	12:17			10:34	10:49
Methane	% vol	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.1	0.2	<0.1			<0.1	<0.1
Carbon Dioxide	% vol	3.1	0.6	0.5	<0.1	0.2	0.1	1.8	5.7	3.1	2.8	1			2.1	2.9
Oxygen	% vol	14.5	18.3	19.2	20.1	19.5	19.6	16.7	6.2	15.3	13.9	16.8			16.3	13.3
Atmospheric Pressure	mbar	1013	996	1018	1021	1016	1016	992	985	1025	992	1002			993	1004
Gas Pressure	mbar	-0.15	-0.24	-0.17	0.32	-0.05	0.02	-0.06	0.09	-0.07	0.08	0.1			-0.15	<0.01
Gas Flow Rate	l/hr	0.1	0.2	-0.1	-0.1	<0.1	0.2	0.1	<0.1	<0.1	0.1	0.1			<0.1	<0.1
Insitu Liquid Determinations																
pH	pH units															
Electrical Conductivity	µS/cm															
Dissolved Oxygen	mg/l															
Temperature	℃															15.3
Comment													Could not be located due to cover of brambles and thistles	Not located - overgrown		

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N81																						(Sept mon)		(Dec Mon)	
Type Of Sample Required	None	18/06/08	29/07/08	27/08/08	25/09/08	31/10/08	27/11/08	19/12/08	30/01/09	27/02/09	31/03/09	29/04/09	28/05/2009	22/06/2009	31/07/2009	26/08/2009	23/09/2009	29/10/2009	30/11/2009	18/12/2009	01/02/2010	08/06/10	19/10/10	15/11/10	12/01/11	26/01/2011
Determinand	Units																									
Water Level																										
Water level to top of casing	m	3.71	3.73	4.26	4.29	4.60	4.55	4.16	4.10	2.05	1.72	2.22	2.76	2.65	3.14	3.84	2.25	1.76	1.53	0.99	0.00	2.14	3.57		0.81	0.77
Borehole depth to top of casing	m	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.36	9.41		9.32	9.37
Top of casing relative to Ordnance Datum Level	m	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41		17.41	17.41
Water level relative to Ordnance Datum	m	13.70	13.68	13.15	13.12	12.81	12.86	13.25	13.31	15.36	15.69	15.19	14.65	14.76	14.27	13.57	15.16	15.65	15.88	16.42	17.41	15.27	13.84		16.60	16.64
Calculated purge volume	litres	50.32	50.16	45.92	45.68	43.20	43.60	46.72	47.20	63.60	66.24	62.24	57.92	58.80	54.88	49.28	62.00	65.92								
Base of Well to Ordnance Datum	m	7.41	7.41	7.41	7.41	7.41	7.41	7.41	7.41	7.41	7.41	7.41	7.41	7.41	7.41	7.41	7.41	7.41	7.41	7.41	7.41	8.05	8.00		8.09	8.04
Gas Concentrations																										
Date monitored	-	18/06/08	29/07/08	27/08/08	25/09/08	31/10/08	27/11/08	19/12/08	30/01/09	27/02/09	31/03/09	29/04/2009	28/05/2009	22/06/2009	31/07/2009	26/08/2009	23/09/2009	29/10/2009		18/12/2009	01/02/2010	08/06/2010	19/10/2010		12/01/2011	26/01/2011
Time of measurement	-		0	11:13	4:33		02:09	03:07	12:28	13:51	13:51	14:50	13:50	12:42		13:38	12:31	12:09		11:52	01:55	12:38	13:10		10:20	14:30
Methane	% vol	0.1	0	0	0		0.5	1.2	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	<0.1	<0.1		<0.1	
Carbon Dioxide	% vol	4.1	3.8	5	4.3		5.2	5.8	6.4	2.0	1.0	0.6	0.4	1.3	1.5	2.8	2.0	1.8		1.6	1.8	0.2	0.1		0.1	
Oxygen	% vol	16.4	17	17.7	18		17.6	17.4	18.2	20.3	20.3	20.5	20.7	19.8	19.4	19.2	19.3	19.2		20.8	21.0	20.7	19.7		20.2	
Atmospheric Pressure	mbar	993	1000	1001	1025		1007	1005	1003	1015	1026	1009	1023	1024	1012	997	1014	1020		1018	1014	1005	999		1000	
Gas Pressure	mbar	-0.1	0.1	<0.1	<0.1		0.02	0.06	0.02	-0.02	1.04	0.03	0.03	0.02	0.03	0	0.04	0.03		-1.13	-1.52	0.04	-0.11		-0.05	
Gas Flow Rate	l/hr	<0.1	0.1	<0.1	<0.1		<0.1	0.1	<0.1	<0.1	-2.9	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		-0.06	0.1	+/-0.1	+/-0.1		+/-0.1	
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	ºC																									
Comment						Equipment Failure																Tap open and left venting. Reading taken venting		Monitoring visit not undertaken due to adverse weather		





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N81**																							
Type Of Sample Required	None	22/02/11	01/04/11	26/04/11	31/05/11	23/06/11	20/07/11	18/08/11	06/09/11	05/10/11	02/11/11	05/12/11	13/01/12	01/02/12	02/03/12	03/04/12	02/05/12	04/06/12	10/07/12	02/08/12	05/09/12	03/10/12	08/11/12	13/12/12
Determinand	Units																							
Water Level																								
Water level to top of casing	m	0.7	0.73	1.67	2.91	3.20	1.79	1.34	2.86	2.19	2.19	1.80	2.21	2.12	3.36	4.10	1.51	3.89	0.82	0.76	0.75	0.99	0.81	0.78
Borehole depth to top of casing	m	9.39	9.42				9.40	9.36	9.39	9.40	9.36	9.40	9.38	9.40	9.38	9.36	9.36	9.38	9.39	9.37	9.39	9.40	9.40	9.36
Top of casing relative to Ordnance Datum Level	m	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41
Water level relative to Ordnance Datum	m	16.71	16.68	15.74	14.50	14.21	15.62	16.07	14.55	15.22	15.22	15.61	15.20		14.05	13.31	15.90	13.52	16.59	16.65	16.66	16.42	16.60	16.63
Calculated purge volume	litres																							
Base of Well to Ordnance Datum	m	8.02	7.99				8.01	8.05	8.02	8.01	8.05	8.01	8.03		8.03	8.05	8.05	8.03	8.02	8.04	8.02	8.01	8.01	8.05
Gas Concentrations																								
Date monitored	-	22/02/2011	01/04/11	26/04/11	31/05/11	23/06/11	20/07/11		06/09/11		02/11/11	05/12/12	13/01/12		02/03/12	03/04/12	02/05/12	04/06/12			05/09/12			13/12/12
Time of measurement	-		14:30	10:38	16:11	11:40	10:57		15:50		10:51	09:52			11:51	11:20		16:01			13:38			12:12
Methane	% vol		<0.1			0.6			<0.1		<0.1	<0.1			<0.1			<0.1			<0.1			0.1
Carbon Dioxide	% vol		0.1			5.5			1.1		0.4	0.1			0.7			0.1			<0.1			0.4
Oxygen	% vol		20.1			16.8			19.6		20.5	21.8			20.8			20.7			20.7			21.0
Atmospheric Pressure	mbar		1001			1009			982		1002	995			1026			1015			1024			1006
Gas Pressure	mbar		0.02			0.00			0.01		-0.04	<0.1			0.11			-0.13			-0.01			-0.06
Gas Flow Rate	l/hr		0.0			<0.1			<0.1		-0.1	-0.1			n/r			<0.1			0.1			<0.1
Insitu Liquid Determinations																								
pH	pH units																							
Electrical Conductivity	µS/cm																							
Dissolved Oxygen	mg/l																							
Temperature	ºC																							
Comment					Split in cap therefore not properly sealed			Casing cracked	Plastic cover cracked	OK	Casing cracked	Casing cracked	gas tap needs replacing	gas tap needs replacing	No bung or gas tap present		No bung or gas tap present	Gas tap damaged						

Ness Farm Landfill
Field Monitoring Sheet

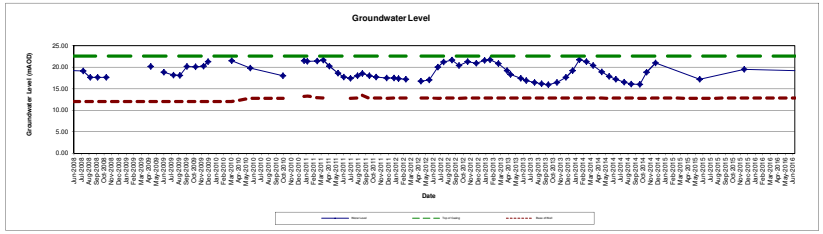
Sampling Location	**N81**																									
Type Of Sample Required	None	15/01/13	06/02/13	12/03/13	16/04/13	01/05/13	12/06/13	04/07/13	06/08/13	04/09/13	02/10/13	05/11/13	12/12/13	08/01/14	04/02/14	05/03/14	01/04/14	06/05/14	05/06/14	02/07/14	05/08/14	03/09/14	08/10/14	04/11/14	11/12/14	08/06/15
Determinand	Units																									
Water Level																										
Water level to top of casing	m	0.64	0.69	1.32	2.38	2.99	3.46	4.26	4.4	4.7	5.22	2.33	2.23	1.15	0.7	0.69	1.43	1.93	2.76	3.37	4.59	2.71	1.88	1.2	0.77	2.64
Borehole depth to top of casing	m	9.39	9.38	9.34	9.36	9.39	9.39	9.38	9.39	9.36	9.36	9.4	9.34	9.36	9.39	9.39	9.39	9.39	9.38	9.4	9.4	9.4	9.4	9.38	9.41	9.41
Top of casing relative to Ordnance Datum Level	m	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41	17.41
Water level relative to Ordnance Datum	m	16.77	16.72	16.09	15.03	14.42	13.95	13.15	13.01	12.71	12.19	15.08	15.18	16.26	16.71	16.72	15.98	15.48	14.65	14.04	12.82	14.70	15.53	16.21	16.64	14.77
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m	8.02	8.03	8.07	8.05	8.02	8.02	8.03	8.02	8.05	8.05	8.01	8.07	8.05	8.02	8.02	8.02	8.02	8.03	8.01	8.01	8.01	8.01	8.03	8.00	8.00
Gas Concentrations																										
Date monitored	-			12/03/13	16/04/13		12/06/13			04/09/13			12/12/13			05/03/14			05/06/14			03/09/14			11/12/14	08/06/15
Time of measurement	-			15:24	13:53		10:17			12:44			12:24			15:20			11:02			13:22			11:03	11:49
Methane	% vol			0.1			<0.1			<0.1			0.1			<0.1			<0.1			<0.1			0.1	0.2
Carbon Dioxide	% vol			0.1			3.8			2.3			<0.1			<0.1			0.6			<0.1			<0.1	<0.1
Oxygen	% vol			20.7			15.5			18.1			20.9			20.9			20.4			20.3			21.1	20
Atmospheric Pressure	mbar			1013			1001			1015			1012			1012			1005			1022			987	1036
Gas Pressure	mbar			-0.09			-0.02			-0.03			-0.12			-0.04			-0.09			-0.12			0.15	-0.05
Gas Flow Rate	l/hr			<0.1			<0.1			<0.1			<0.1			<0.1			<0.1			<0.1			-0.1	<0.1
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	ºC																									
Comment															Oil on surface.											

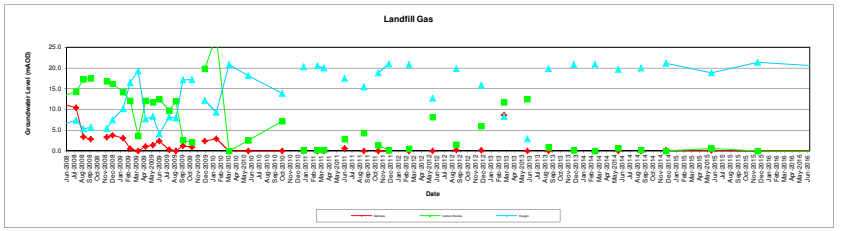
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N81		
Type Of Sample Required	None	07/12/15	29/06/16
Determinand	Units		
Water Level			
Water level to top of casing	m	0.8	0.87
Borehole depth to top of casing	m	9.39	9.38
Top of casing relative to Ordnance Datum Level	m	17.41	17.41
Water level relative to Ordnance Datum	m	16.61	16.54
Calculated purge volume	litres		
Base of Well to Ordnance Datum	m	8.02	8.03
Gas Concentrations			
Date monitored	-	07/12/15	29/06/16
Time of measurement	-	14:37	14:19
Methane	% vol	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1
Oxygen	% vol	21.5	20.9
Atmospheric Pressure	mbar	1015	999
Gas Pressure	mbar	-0.08	<0.01
Gas Flow Rate	l/hr	0.1	<0.1
Insitu Liquid Determinations			
pH	pH units		
Electrical Conductivity	µS/cm		
Dissolved Oxygen	mg/l		
Temperature	°C		15.9
Comment			

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N83																								(Sept mon)		(Dec Mon)
Type Of Sample Required	None	18/06/08	29/07/08	27/08/08	25/09/08	31/10/08	27/11/08	19/12/08	30/01/09	27/02/09	31/03/09	29/04/09	28/05/2009	22/06/09	31/07/2009	26/08/2009	23/09/2009	29/10/2009	30/11/09	18/12/2009	01/02/2010	24/03/10	08/06/10	19/10/10	15/11/10	12/01/11
Determinand	Units																										
Water Level																											
Water level to top of casing	m	3.44	3.45	4.94	4.95	4.94	DRY	DRY	DRY	DRY	DRY	2.43		3.81	4.44	4.49	2.45	2.53	2.38	1.31	Dry	1.08	2.84	4.61		1.11
Borehole depth to top of casing	m	10.60	10.60	10.60	10.60	10.60	10.60	10.60	10.60	10.60	10.60	10.60	10.60	10.60	10.60	10.60	10.60	10.60	10.60	10.60	10.60	9.82	9.81	9.80		9.42
Top of casing relative to Ordnance Datum Level	m	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62
Water level relative to Ordnance Datum	m	19.18	19.17	17.68	17.67	17.68						20.19		18.81	18.18	18.13	20.17	20.09	20.24	21.31		21.54	19.78	18.01		21.51
Calculated purge volume	litres		57.20	45.28	45.20	45.28																				
Base of Well to Ordnance Datum	m	12.02	12.02	12.02	12.02	12.02	12.02	12.02	12.02	12.02	12.02	12.02	12.02	12.02	12.02	12.02	12.02	12.02	12.02	12.02	12.02	12.02	12.81	12.82		13.20
Gas Concentrations																											
Date monitored	-	18/06/08	29/07/08	27/08/08	25/09/08	31/10/08	27/11/08	19/12/08	30/01/09	27/02/09	31/03/09	29/04/2009	28/05/2009	22/06/2009	31/07/2009	26/08/2009	23/09/2009	29/10/2009		18/12/2009	01/02/2010	24/03/2010	08/06/2010	19/10/2010		12/01/2011
Time of measurement	-		0	11:08	16.15		03:07	04:19	00:57	11:34	13:56	14:55	13:55	12:45	00:00	14:45	12:26	12:03		11:48	00:28	09:40	12:43	13:05		10:15
Methane	% vol	11.1	10.4	3.4	2.8		3.3	3.8	3.1	0.5	0.0	1.1	1.4	2.4	0.3	0.0	1.2	0.9		2.4	2.9	<0.1	<0.1	<0.1		<0.1
Carbon Dioxide	% vol	13.5	14.3	17.3	17.5		16.8	16.2	14.2	12.1	3.6	12.1	11.7	12.5	9.7	12.0	2.6	2.1		19.8	27.6	<0.1	2.5	7.2		0.1
Oxygen	% vol	6.6	7.4	5.3	5.7		5.4	7.5	10.2	16.5	19.3	7.7	8.3	4.1	8.2	7.9	17.1	17.2		12.2	9.3	20.8	18.1	13.9		20.3
Atmospheric Pressure	mbar	993	1000	1000	1025		1007	1005	1003	1014	1025	1009	1023	1024	1012	997	1013	1019		1018	1013	1000	1005	999		1000
Gas Pressure	mbar	<0.1	<0.1	<0.1	0.1		0.04	-0.04	-0.01	1.15	-0.05	0.02	0.02	0.04	0.06	0	0.05	0.02		-2.45	-2.52	+/-0.01	0.01	-0.06		-0.1
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	0.1		<0.1	0.1	<0.1	-2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		-1.9	-2.8	+/-0.1	+/-0.1	+/-0.1		+/-0.1
Insitu Liquid Determinations																											
pH	pH units																										
Electrical Conductivity	µS/cm																										
Dissolved Oxygen	mg/l																										
Temperature	℃																										
Comment						Equipment Failure																	Tap open and left venting. Reading taken venting		Monitoring visit not undertaken due to adverse weather	





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N83**		(Feb Mon)																					
Type Of Sample Required	None	26/01/11	07/03/11	01/04/11	26/04/11	30/05/11	23/06/11	20/07/11	18/08/11	06/09/11	05/10/11	02/11/11	14/12/11	13/01/12	01/02/12	02/03/12	03/04/2012	02/05/12	04/06/12	10/07/12	02/08/12	05/09/12	03/10/12	08/11/12
Determinand	Units																							
Water Level																								
Water level to top of casing	m	1.29	1.15	0.95	2.38	4.00	4.92	5.19	4.58	4.07	4.63	4.87	5.13	5.10	5.23	5.42		5.87	5.57	2.58	1.43	0.98	2.19	1.32
Borehole depth to top of casing	m	9.28	9.70	9.75				9.80	9.74	9.08	9.80	9.74	9.82	9.77	9.77	9.76		9.74	9.77	9.79	9.75	9.75	9.83	9.77
Top of casing relative to Ordnance Datum Level	m	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62	22.62		22.62	22.62	22.61	22.61	22.61	22.61	22.61
Water level relative to Ordnance Datum	m	21.33	21.47	21.67	20.24	18.62	17.70	17.43	18.04	18.55	17.99	17.75	17.49	17.52	17.39	17.20		16.75	17.05	20.03	21.18	21.63	20.42	21.29
Calculated purge volume	litres																							
Base of Well to Ordnance Datum	m	13.34	12.92	12.87				12.82	12.88	13.54	12.82	12.88	12.80	12.85	12.85	12.86		12.88	12.85	12.82	12.86	12.86	12.78	12.84
Gas Concentrations																								
Date monitored	-	26/01/2011	07/03/2011	01/04/11	26/04/11	30/05/11	23/06/11	20/07/11	18/08/11	06/09/11		02/11/11	14/12/12	13/01/12		02/03/12			04/06/12			05/09/12		
Time of measurement	-	14:40		14:20	10:36	16:15	11:35	10:53		15:45		10:39	10:53			11:44			15:55			13:43		
Methane	% vol		<0.1	<0.1			0.6			<0.1		<0.1	<0.1			<0.1			<0.1			0.2		
Carbon Dioxide	% vol		0.2	0.2			2.8			4.3		1.4	0.1			0.5			8.2			1.5		
Oxygen	% vol		20.5	20.0			17.5			15.4		18.8	21.0			20.8			12.7			19.8		
Atmospheric Pressure	mbar		1025	1001			1009			982		1001	975			1025			1015			1024		
Gas Pressure	mbar		0.5	0.04			0.00			0.01		-0.03	<0.1			0.08			-0.12			<0.01		
Gas Flow Rate	l/hr		-0.6	0.0			<0.1			-0.2		<0.1	-0.1			0.1			<0.1			<0.1		
Insitu Liquid Determinations																								
pH	pH units																							
Electrical Conductivity	µS/cm																							
Dissolved Oxygen	mg/l																							
Temperature	℃																							
Comment						Split in cap therefore not properly sealed				Plastic cover cracked	OK	Casing cracked	Casing cracked	Casing cracked	Casing cracked	Casing cracked	Bung stuck							

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N83**																										
Type Of Sample Required	None	13/12/12	15/01/13	06/02/13	12/03/13	16/04/13	01/05/13	12/06/13	04/07/13	06/08/13	04/09/13	02/10/13	05/11/13	12/12/13	08/01/14	04/02/14	05/03/14	01/04/14	06/05/14	05/06/14	02/07/14	05/08/14	03/09/14	08/10/14	04/11/14	11/12/14
Determinand	Units																										
Water Level																											
Water level to top of casing	m	1.66	1.05	0.91	1.80	3.4	4.29	5.17	5.72	6.16	6.41	6.67	6.16	4.96	3.4	0.91	1.3	2.24	3.67	4.7	5.39	6.1	6.5	6.59	3.75	1.64
Borehole depth to top of casing	m	9.77	9.76	9.75	9.73	9.75	9.77	9.75	9.75	9.78	9.75	9.78	9.76	9.75	9.74	9.78	9.77	9.78	9.78	9.79	9.78	9.78	9.77	9.79	9.79	9.77
Top of casing relative to Ordnance Datum Level	m	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61	22.61
Water level relative to Ordnance Datum	m	20.95	21.56	21.70	20.81	19.21	18.32	17.44	16.89	16.45	16.20	15.94	16.45	17.65	19.21	21.70	21.31	20.37	18.94	17.91	17.22	16.51	16.11	16.02	18.86	20.97
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m	12.84	12.85	12.86	12.88	12.86	12.84	12.86	12.86	12.83	12.86	12.83	12.85	12.86	12.87	12.83	12.84	12.83	12.83	12.82	12.83	12.83	12.84	12.82	12.82	12.84
Gas Concentrations																										
Date monitored	-	13/12/12			12/03/13	16/04/13		12/06/13			04/09/13			12/12/13			05/03/14			05/06/14			03/09/14			11/12/14
Time of measurement	-	12:06			15:36	13:56		10:12			12:37			12:19			15:25			10:57			13:17			10:58
Methane	% vol	0.1			8.6			<0.1			<0.1			0.1			<0.1			<0.1			<0.1			0.1
Carbon Dioxide	% vol	6.0			11.7			12.5			0.8			0.1			<0.1			0.7			0.2			<0.1
Oxygen	% vol	15.9			8.3			2.9			19.8			20.8			20.9			19.7			20			21.1
Atmospheric Pressure	mbar	1006			1012			1001			1015			1011			1012			1005			1022			987
Gas Pressure	mbar	-0.06			-0.12			-0.02			-0.02			-0.1			-0.08			-0.09			-0.14			0.14
Gas Flow Rate	l/hr	<0.1			<0.1			<0.1			<0.1			<0.1			<0.1			<0.1			<0.1			-0.1
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	℃																									
Comment																Very foamy.										

Ness Farm Landfill
Field Monitoring Sheet

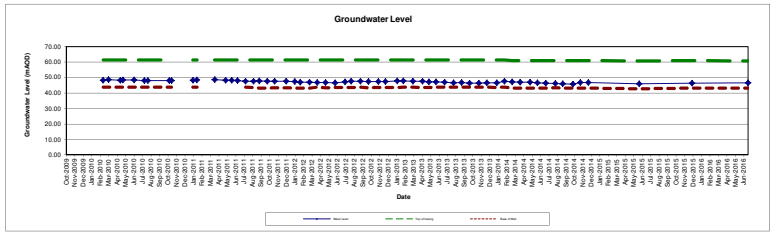
Sampling Location	**N83**			
Type Of Sample Required	None	08/06/15	07/12/15	29/06/16
Determinand	Units			
Water Level				
Water level to top of casing	m	5.37	3.1	3.39
Borehole depth to top of casing	m	9.8	9.72	9.74
Top of casing relative to Ordnance Datum Level	m	22.61	22.61	22.61
Water level relative to Ordnance Datum	m	17.24	19.51	19.22
Calculated purge volume	litres			
Base of Well to Ordnance Datum	m	12.81	12.89	12.87
Gas Concentrations				
Date monitored	-	08/06/15	07/12/15	29/06/16
Time of measurement	-	11:18	14:32	14:42
Methane	% vol	0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.6	<0.1	<0.1
Oxygen	% vol	18.8	21.4	20.6
Atmospheric Pressure	mbar	1035	1015	998
Gas Pressure	mbar	-0.06	-0.09	<0.01
Gas Flow Rate	l/hr	<0.1	0.1	<0.1
Insitu Liquid Determinations				
pH	pH units			
Electrical Conductivity	µS/cm			
Dissolved Oxygen	mg/l			
Temperature	℃			14.6
Comment				

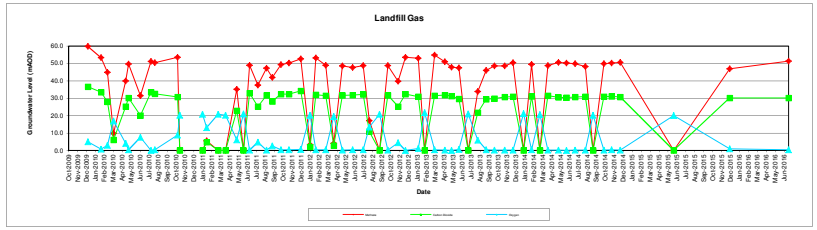
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N89												(Sept mon)			(Dec Mon)		(Feb Mon)		(April Mon)							
Type Of Sample Required	None	30/11/09	18/12/09	01/02/10	23/02/10	15/03/10	26/04/10	05/05/10	15/06/10	21/07/10	03/08/10	19/10/10	27/10/10	15/11/10	12/01/11	26/01/11	07/03/11	31/03/11	09/05/11	31/05/11	21/06/11	20/07/11	18/08/11	07/09/11	06/10/11	02/11/11
Determinand	Units																										
Water Level																											
Water level to top of casing	m				13.05	12.64	13.21	12.96	12.94	13.44	13.37	13.31	13.38		13.05	12.88		12.65	13.04	13.12	13.40	13.79	13.67	13.63	13.69	13.74
Borehole depth to top of casing	m				17.63	17.59	17.60	17.60	17.59	17.60	17.60	17.60	17.60		17.65	17.59		17.55				17.60	17.87	18.17	18.20	18.02
Top of casing relative to Ordnance Datum Level	m				61.40	61.40	61.40	61.40	61.40	61.40	61.40	61.40	61.40		61.40	61.40		61.40	61.40	61.40	61.40	61.40	61.40	61.40	61.40	61.40
Water level relative to Ordnance Datum	m				48.35	48.76	48.19	48.44	48.46	47.96	48.03	48.09	48.02		48.35	48.52		48.75	48.36	48.28	48.00	47.61	47.73	47.77	47.71	47.66
Calculated purge volume	litres																										
Base of Well to Ordnance Datum	m				43.77	43.81	43.80	43.80	43.81	43.80	43.80	43.80	43.80		43.75	43.81		43.85				43.80	43.53	43.23	43.20	43.38
Gas Concentrations																											
Date monitored	-		18/12/2009	01/02/2010	23/02/2010	15/03/2010	26/04/2010	05/05/2010	15/06/2010	21/07/2010	03/08/2010	19/10/2010	27/10/2010		11/01/2011	26/01/2011	07/03/2011	31/03/2011	09/05/2011	31/05/2011	21/06/11	21/07/11	18/08/11	07/09/11	06/10/11	02/11/11
Time of measurement	-		14.08	5:31	16:00	16:15	15:16	09:01	10:12	11:33	09:58	13:30	10:30		11:30	13:00		16:00	11:26	11:39	12:45	09:55	15:05	16:31	13:07	15:50
Methane	% vol		59.8	53.4	45.0	9.8	40.0	49.7	31.5	51.1	50.5	53.6	<0.1		<0.1	5.5	<0.1	<0.1	35.1	<0.1	49	37.5	47.3	42.0	49.4	50.2
Carbon Dioxide	% vol		36.7	33.5	28.0	6.2	25.3	30.2	20.0	33.5	32.6	30.7	0.1		<0.1	4.8	0.0	<0.1	22.8	<0.1	33.0	25.3	31.7	28.1	32.4	32.4
Oxygen	% vol		5	0.7	2.9	17.0	4.1	0.4	7.5	0.1	0.5	8.9	20.2		20.9	13.1	20.9	20.3	6.2	21.0	0.2	4.9	0.2	2.6	0.4	0.5
Atmospheric Pressure	mbar		1016	1010	992	1012	1010	1013	1022	994	1002	999	998		999	1014	1025	983	1012	1015	1005	1011	1015	991	987	994
Gas Pressure	mbar		0.85	0.13	-0.02	+/-0.01	0.04	0.12	-0.05	0.12	0.19	0.14	0.6		0.07	0.09	26		0.04	0	0.00	-0.07	0.07	-0.08	0.07	-0.73
Gas Flow Rate	l/hr		<0.1	0.1	0.0	+/-0.1	+/-0.1	0.1	+/-0.1	0.3	0.4	+/-0.1	+/-0.1		+/-0.1	-0.2	-0.8		0.3	<0.1	0.3	0.1	<0.1	<0.1	0.7	<0.1
Insitu Liquid Determinations																											
pH	pH units																										
Electrical Conductivity	µS/cm																										
Dissolved Oxygen	mg/l																										
Temperature	℃								13.9									13.9									
Comment		No access	No access	No access										Monitoring visit not undertaken due to adverse weather				Tap seized									

Ground Level - 60.476m AOD (March 2015)
Cover Level - 60.863 m AOD (March 2015)

Ground Level - 60.415m AOD (May2016)
Cover Level - 60.818 m AOD (May 2016)





Fairhurst Partners
Environmental Monitoring
June 2016

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N89**																									
Type Of Sample Required	None	13/12/11	13/01/12	02/02/12	06/03/12	03/04/12	02/05/12	06/06/12	12/07/12	02/08/12	05/09/12	04/10/12	08/11/12	03/12/12	15/01/13	06/02/13	12/03/13	16/04/13	09/05/13	03/06/13	04/07/13	06/08/13	03/09/13	02/10/13	05/11/13	03/12/13
Determinand	Units																									
Water Level																										
Water level to top of casing	m	13.77	14.06	14.45	14.40	14.62	14.50	14.82	14.21	13.83	13.75	13.97	13.93	13.97	13.45	13.55	13.70	13.72	14.08	14.25	14.43	14.77	14.66	14.94	15	14.81
Borehole depth to top of casing	m	17.91	18.20	18.11	18.20	17.68	18.08	17.72	17.70	17.74	17.68	17.94	17.73	17.69	17.71	17.67	17.62	17.74	17.78	17.67	17.64	17.64	17.66	17.67	17.66	17.65
Top of casing relative to Ordnance Datum Level	m	61.40	61.40	61.40	61.40	61.40	61.40	61.40	61.40	61.40	61.40	61.40	61.40	61.40	61.40	61.40	61.40	61.40	61.40	61.40	61.40	61.40	61.40	61.40	61.40	61.40
Water level relative to Ordnance Datum	m	47.63	47.34	46.95	47.00	46.78	46.90	46.58	47.19	47.57	47.65	47.43	47.47	47.43	47.95	47.85	47.70	47.68	47.32	47.15	46.97	46.63	46.74	46.46	46.40	46.59
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m	43.49	43.20	43.29	43.20	43.72	43.32	43.68	43.70	43.66	43.72	43.46	43.67	43.71	43.69	43.73	43.78	43.66	43.62	43.73	43.76	43.76	43.74	43.73	43.74	43.75
Gas Concentrations																										
Date monitored	-	13/12/12	13/01/12	02/02/12	06/03/12	04/03/12	02/05/12	06/06/12	12/07/12	02/08/12	05/09/12	04/10/12	08/11/12	03/12/12	15/01/013	06/02/13	12/03/13	16/04/13	09/05/13	03/06/13	04/07/13	06/08/13	03/09/13	02/10/13	05/11/13	03/12/13
Time of measurement	-	11:23		10:41	12:10	09:32	15:44	12:26	11:01	13:01	10:01	16:09	15:05	14:24	10:34	09:58	12:50	10:39	10:39	12:46	15:26	14:48	12:33	13:21	10:13	10:28
Methane	% vol	52.7	3.4	53.1	49.0	4.1	48.6	47.6	48.8	17.2	<0.1	48.8	39.7	53.6	53.0	<0.1	54.9	50.9	47.9	47.4	<0.1	33.9	46.1	48.6	48.6	50.5
Carbon Dioxide	% vol	34.3	2.1	32.0	31.4	2.8	31.6	31.9	32.3	10.9	<0.1	31.6	25.3	32.4	31.0	0.1	31.5	31.8	31.3	29.6	<0.1	21.8	29.4	29.8	30.8	31
Oxygen	% vol	0.6	20.2	0.5	0.5	19.6	0.3	0.5	0.5	13.4	20.9	0.2	4.4	<0.1	1.1	21.8	0.4	0.2	0.1	0.6	21	6	0.5	0.2	0.3	0.2
Atmospheric Pressure	mbar	962	1027	1032	1014	1017	1021	993	1004	998	1018	996	1004	993	1007	1006	1008	988	995	1027	1004	1006	1017	1007	984	1015
Gas Pressure	mbar	<0.1	0.05	-0.07	-0.11	<0.01	-0.15	-0.46	-0.07	-0.23	0.28	0.16	0.21	0.51	-0.15	-0.10	-0.05	-0.98	0.03	0.22	-0.07	-0.26	0.09	0.23	0.18	0.34
Gas Flow Rate	l/hr	0.4	0.1	<0.1	1.0	-0.2	<0.1	<0.1	0.1	<0.1	-0.3	<0.1	0.2	1.1	<0.1	0.1	0.5	0.3	0.3	0.3	0.2	<0.1	0.3	0.4	0.8	<0.1
Insitu Liquid Determinations																										
pH	pH units	7.1						7.1						7.1						7.1						7.3
Electrical Conductivity	µS/cm	5870						5740						6190						6460						6390
Dissolved Oxygen	mg/l	1.3						1.5						3.5						0.8						< 1.0
Temperature	℃	12.1			12.0			11.7						10.7			10.7			15.8			17.7			12.1
Comment		Gas tap requires replacing			Gas tap requires replacing	Gas tap requires replacing (stuck open)	Gas tap requires replacing	Soft sediment at base of borehole. Spot sample taken.	Soft sediment.	Soft sediment at base of borehole	Soft sediment at base of borehole.		Soft sediment at base of borehole.	Soft sediment at base of borehole.	Soft sediment at base of borehole.	Soft sediment at base of borehole	Soft sediment at base of borehole.			Tap above lid requires attention	Tap above lid requires attention	Tap above lid requires attention.	Tap above lid requires attention.	Tap above lid and requires attention	Oil on surface of water.	Oil on surface of water.

Ground Level - 60.476m AOD (March 2015)
Cover Level - 60.863 m AOD (March 2015)

Ground Level - 60.415m AOD (May2016)
Cover Level - 60.818 m AOD (May 2016)

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N89**															
Type Of Sample Required	None	08/01/14	04/02/14	04/03/14	01/04/14	07/05/14	03/06/14	02/07/14	06/08/14	01/09/14	08/10/14	03/11/14	03/12/14	03/06/15	11/12/15	28/06/16
Determinand	Units															
Water Level																
Water level to top of casing	m	14.73	13.84	13.65	13.79	13.96	14.19	14.5	14.77	14.96	15.1	14.14	14.05	14.83	14.47	14.2
Borehole depth to top of casing	m	17.8	17.66	17.66	17.66	17.67	17.65	17.67	17.56	17.67	17.76	17.72	17.66	18.14	17.63	17.64
Top of casing relative to Ordnance Datum Level	m	61.40	61.40	60.88	60.88	60.88	60.88	60.88	60.88	60.88	60.88	60.88	60.88	60.86	60.88	60.82
Water level relative to Ordnance Datum	m	46.67	47.56	47.23	47.09	46.92	46.69	46.38	46.11	45.92	45.78	46.74	46.83	46.03	46.41	46.62
Calculated purge volume	litres															
Base of Well to Ordnance Datum	m	43.60	43.74	43.22	43.22	43.21	43.23	43.21	43.32	43.21	43.12	43.16	43.22	42.72	43.25	43.18
Gas Concentrations																
Date monitored	-	08/01/14	04/02/14	04/03/14	01/04/14	07/05/14	03/06/14	02/07/14	06/08/14	01/09/14	08/10/14	03/11/14	03/12/14	03/06/15	11/12/15	28/06/16
Time of measurement	-	10:27	11:24	14:36	15:13	10:58	13:13	12:02	12:02	14:51	12:47	14:01	10:50	11:12	12:17	11:39
Methane	% vol	0.1	49.6	0.1	48.7	50.6	50.3	49.8	48.3	0.2	49.9	50.2	50.6	<0.1	47	51.4
Carbon Dioxide	% vol	<0.1	31.2	<0.1	31.5	30.5	30.4	30.7	30.9	0.1	30.9	31.2	30.8	<0.1	30.2	30.2
Oxygen	% vol	21.2	0.5	20.7	0.3	0.2	0.1	0.2	0.2	20.3	0.3	0.4	0.3	20.1	1	0.5
Atmospheric Pressure	mbar	994	987	989	1006	992	1003	1008	1003	1012	986	979	1021	1007	1000	1006
Gas Pressure	mbar	-0.03	0.01	0.06	0.15	-0.06	-0.27	0.3	-0.03	-0.11	-0.06	0.11	0.02	-0.06	0.04	0.29
Gas Flow Rate	l/hr	-0.9	0.1	-0.4	0.2	0.3	0.4	0.9	0.7	-0.1	0.7	0.5	0.5	-0.6	0.9	0.3
Insitu Liquid Determinations																
pH	pH units						7.1							7.3		7.2
Electrical Conductivity	µS/cm						6020							7580		7330
Dissolved Oxygen	mg/l													1.6		1.0
Temperature	℃			11.9			16.1			16.1				17.2		14.3
Comment		Oil on surface of the water, very thick.	Oil on surface of the water, very thick.	Oil on surface of water.										Very spongy at base.	Very spongy at base.	

Ground Level - 60.476m AOD (March 2015)
Cover Level - 60.863 m AOD (March 2015)

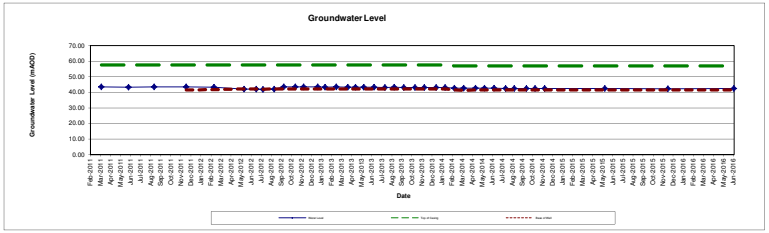
Ground Level - 60.415m AOD (May2016)
Cover Level - 60.818 m AOD (May 2016)

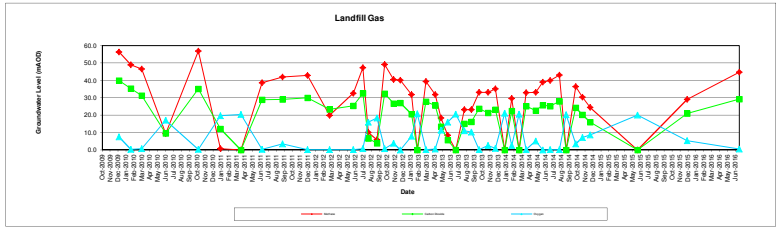
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N90						(Sept mon)	(Dec Mon)																		
Type Of Sample Required	None	30/11/09	18/12/09	01/02/10	15/03/10	15/06/10	19/10/10	12/01/11	31/03/11	21/06/11	07/09/11	13/12/11	06/03/12	05/06/12	12/07/12	02/08/12	05/09/12	04/10/12	08/11/12	03/12/12	15/01/13	06/02/13	12/03/13	16/04/13	09/05/13	03/06/13
Determinand	Units																									
Water Level																										
Water level to top of casing	m	14.01	14.04		13.99	14.10	14.02	14.00	14.10	14.13	14.03	14.08	14.13	14.07	14.04	13.98	13.99	14.03	14.05	14.01	14.07	14.12	14.10	14.14	14.17	14.24
Borehole depth to top of casing	m				15.40	15.39	15.35	16.40	16.20		NR	15.91	15.77	15.40	15.40	15.58	15.40	15.41	15.41	15.41	15.40	15.38	15.35	15.41	15.39	15.43
Top of casing relative to Ordnance Datum Level	m								57.50	57.50	57.50	57.50	57.50	57.50	57.50	57.50	57.50	57.50	57.50	57.50	57.50	57.50	57.50	57.50	57.50	57.50
Water level relative to Ordnance Datum	m								43.40	43.37	43.47	43.42	43.37	42.10	42.10	41.92	42.10	43.47	43.45	43.49	43.43	43.38	43.40	43.36	43.33	43.26
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m								41.30			41.59	41.73	42.10	42.10	41.92	42.10	42.09	42.09	42.09	42.10	42.12	42.15	42.09	42.11	42.07
Gas Concentrations																										
Date monitored	-		18/12/09	01/02/10	15/03/10	15/06/10	18/10/2010	11/01/2011	31/03/11	21/06/11	07/09/11	13/12/12	06/03/12	05/06/12	12/07/12	02/08/12	05/09/12	04/10/12	08/11/12	03/12/12	15/01/13	06/02/13	12/03/13	16/04/13	09/05/13	03/06/13
Time of measurement	-		14:00	7:26	16:30	09:15	16:00	16:00	16:10	15:20	14:06	10:15	11:38	16:11	11:05	12:50	09:27	16:00	16:01	14:58	10:25	10:09	12:21	10:47	10:47	13:20
Methane	% vol		56.4	48.9	46.5	9.4	56.8	0.8	<0.1	38.7	42.0	42.9	19.9	32.6	47.3	10.2	5.9	49.1	40.5	40.2	31.9	<0.1	39.4	31.8	18.4	8.5
Carbon Dioxide	% vol		39.9	35.3	31.3	9.6	35.2	12.2	<0.1	29.0	29.1	30.0	23.4	25.4	32.6	6.7	3.9	32.4	26.7	27.1	20.6	0.1	27.9	25.6	13.5	5.7
Oxygen	% vol		7.6	0.4	0.7	17.1	0.5	19.8	20.5	0.5	3.5	0.2	0.2	0.3	0.7	16.1	18.4	0.8	3.9	0.1	7.9	20.9	0.2	0.6	11.5	16.1
Atmospheric Pressure	mbar		1016	1010	1012	1011	997	999	983	1005	991	962	1015	1005	1003	998	1018	996	1004	993	1008	1005	1009	987	994	1028
Gas Pressure	mbar		0.06	0.1	-0.19	0.03	0.46	-0.5	0.13	0.00	<0.01	-0.25	0.05	0.05	0.03	-0.20	0.22	0.14	0.17	0.59	-0.28	-0.22	-0.11	0.08	<0.01	-0.12
Gas Flow Rate	l/hr		<0.1	0.1	+/-0.1	+/-0.1	0.6	0.6	0.1	0.1	<0.1	0.5	<0.1	0.1	0.1	0.1	<0.1	0.6	0.4	0.8	<0.1	0.4	0.3	1.5	-0.3	0.1
Insitu Liquid Determinations																										
pH	pH units											7.4		7.4						7.3						7.3
Electrical Conductivity	µS/cm											7080		8350						7010						7190
Dissolved Oxygen	mg/l											4.8		5.0						2.2						3.1
Temperature	℃					13.5			13.9			10.3	10.4	12.1						10.2			10.1			16.5
Comment		Gas analysis lost												Spot sample taken								Difficult to close cover due to height of tap	Difficult to close cover due to height of tap	Difficult to close due to tap height	Difficult to close due to tap height	Tap above lid requires attention

Ground Level - 56.358m AOD (March 2015)
Cover Level - 56.931 m AOD (March 2015)

Ground Level - 56.355m AOD (May 2016)
Cover Level - 56.907 m AOD (May 2016)





Fairhurst Partners
Environmental Monitoring
June 2016

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N90**																						
Type Of Sample Required	None	04/07/13	06/08/13	03/09/13	02/10/13	05/11/13	03/12/13	08/01/14	04/02/14	04/03/14	01/04/14	07/05/14	03/06/14	02/07/14	06/08/14	01/09/14	08/10/14	03/11/14	03/12/14	03/06/15	11/12/15	28/06/16
Determinand	Units																						
Water Level																							
Water level to top of casing	m	14.23	14.4	14.3	14.34	14.36	14.4	14.42	14.35	14.24	14.22	14.26	14.3	14.36	14.42	14.46	14.49	14.5	14.52	14.54	14.6	14.49
Borehole depth to top of casing	m	15.35	15.36	15.37	15.38	15.39	15.4	15.37	15.38	15.4	15.53	15.41	15.36	15.4	15.44	15.37	15.39	15.41	15.4	15.36	15.38	15.32
Top of casing relative to Ordnance Datum Level	m	57.50	57.50	57.50	57.50	57.50	57.50	57.50	57.50	56.96	56.96	56.96	56.96	56.96	56.96	56.96	56.96	56.96	56.96	56.93	56.96	56.91
Water level relative to Ordnance Datum	m	43.27	43.10	43.20	43.16	43.14	43.10	43.08	43.15	42.72	42.74	42.70	42.66	42.60	42.54	42.50	42.47	42.46	42.44	42.39	42.36	42.42
Calculated purge volume	litres																						
Base of Well to Ordnance Datum	m	42.15	42.14	42.13	42.12	42.11	42.10	42.13	42.12	41.56	41.43	41.55	41.60	41.56	41.52	41.59	41.57	41.55	41.56	41.57	41.58	41.59
Gas Concentrations																							
Date monitored	-	04/07/13	06/08/13	03/09/13	02/10/13	05/11/13	03/12/13	08/01/14	04/02/14	04/03/14	01/04/14	07/05/14	03/06/14	02/07/14	06/08/14	01/09/14	08/10/14	03/11/14	03/12/14	03/06/15	11/12/15	28/06/16
Time of measurement	-	15:09	14:36	12:05	13:14	10:01	09:43	10:36	11:15	14:19	15:19	10:51	13:57	11:55	12:10	14:28	12:41	13:55	10:44	10:48	12:07	12:25
Methane	% vol	<0.1	23.3	23.3	33.2	33.1	35.2	0.1	29.7	<0.1	33	33.1	39	39.9	43	0.1	36.4	30.4	24.5	<0.1	29.1	44.8
Carbon Dioxide	% vol	<0.1	15.1	16.2	23.7	21.4	23.2	<0.1	22.5	<0.1	25.3	22.7	25.7	25.2	28	<0.1	24.3	20.3	16	<0.1	21	29.3
Oxygen	% vol	20.6	11.1	10.3	0.2	2.7	0.9	21.2	2.7	20.7	0.3	5.2	0.1	0.2	0.2	20.3	3.6	7.2	8.6	20	5.4	0.6
Atmospheric Pressure	mbar	1008	1005	1016	1007	984	1015	995	987	989	1006	991	1003	1012	1003	1013	988	979	1021	1008	1000	1006
Gas Pressure	mbar	0.02	-0.2	-0.03	0.08	0.21	0.28	-0.09	-0.17	-0.09	0.17	-0.17	-0.23	0.24	-0.01	-0.14	-0.05	0.14	-0.01	<0.01	-0.07	<0.01
Gas Flow Rate	l/hr	0.1	-0.3	<0.1	0.5	0.2	<0.1	-1.3	-0.2	-0.8	0.2	0.1	0.1	0.6	0.5	-0.1	0.3	<0.1	0.1	-0.6	<0.1	0.8
Insitu Liquid Determinations																							
pH	pH units						7						7.4							7.4		7.4
Electrical Conductivity	µS/cm						7020						8110							9580		9470
Dissolved Oxygen	mg/l						6													4.1		2.0
Temperature	℃			19.4			11.3			11.6			13.9			15.5				16.3		15
Comment		Tap above lid requires attention	Tap above lid requires attention.	Tap above lid requires attention.				Very spongy														

Ground Level - 56.358m AOD (March 2015)
Cover Level - 56.931 m AOD (March 2015)

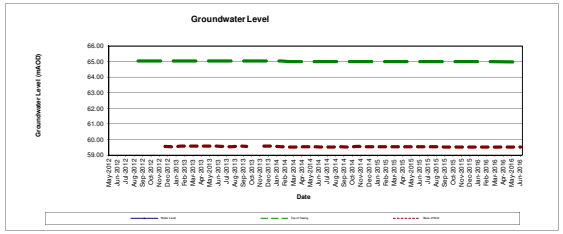
Ground Level - 56.355m AOD (May 2016)
Cover Level - 56.907 m AOD (May 2016)

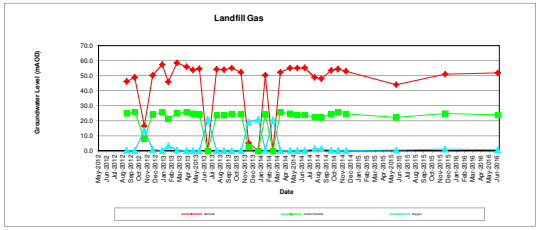
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N91																										
Type Of Sample Required	Leachate	04/09/12	04/10/12	08/11/12	10/12/12	15/01/13	06/02/13	11/03/13	16/04/13	09/05/13	03/06/13	04/07/13	06/08/13	03/09/13	02/10/13	05/11/13	03/12/13	08/01/14	04/02/14	04/03/14	01/04/14	07/05/14	03/06/14	01/07/14	07/08/14	01/09/14
Determinand	Units																										
Water Level																											
Water level to top of casing	m	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Borehole depth to top of casing	m	5.51	5.47	5.47	5.49	5.50	5.46	5.47	5.46	5.47	5.47	5.48	5.5	5.47	5.48	5.48	5.47	5.47	5.5	5.49	5.5	5.47	5.47	5.5	5.48	5.47
Top of casing relative to Ordnance Datum Level	m	65.05	65.05	65.05	65.05	65.05	65.05	65.05	65.05	65.05	65.05	65.05	65.05	65.05	65.05	65.05	65.05	65.05	65.05	65.01	65.01	65.01	65.01	65.01	65.01	65.01
Water level relative to Ordnance Datum	m																									
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m				59.56	59.55	59.59	59.58	59.59	59.58	59.58	59.57	59.55	59.58	59.57		59.58	59.58	59.55	59.52	59.51	59.54	59.54	59.51	59.53	59.54
Gas Concentrations																										
Date monitored	-	04/09/12	04/10/12	08/11/12	10/12/12	15/01/13	06/02/13	11/03/13	16/04/13	09/05/13	03/06/13	04/07/13	06/08/13	03/09/13	02/10/13	05/11/13	03/12/13	08/01/14	04/02/14	04/03/14	01/04/14	07/05/14	03/06/14	01/07/14	07/08/14	01/09/14
Time of measurement	-	13:47	16:18	14:23	10:15	10:46	10:18	09:20	10:55	10:56	12:32	15:34	15:03	14:02	13:53	10:27	11:16	10:13	11:33	15:10	14:58	11:04	12:13	15:15	12:31	15:18
Methane	% vol	46.1	48.9	16.6	50.2	57.5	45.9	58.4	55.9	53.9	54.6	<0.1	54.3	54.1	55.1	52.4	5.2	0.1	50.4	0.1	52.3	55.1	55	55.3	49	48
Carbon Dioxide	% vol	25.0	26.0	8.2	24.3	25.6	21.4	25	25.7	24.8	24.3	<0.1	23.8	23.7	24.7	24.7	2.5	<0.1	24.5	<0.1	25.8	24.9	24.1	23.9	22.5	22.3
Oxygen	% vol	0.4	0.1	13.7	1.1	0.2	3.3	0.5	0.2	0.2	0.2	21.1	0.2	0.1	0.1	0.2	19	21	0.5	20.5	0.4	0.1	0.1	0.2	1.5	1.4
Atmospheric Pressure	mbar	1010	996	1003	1020	1007	1005	1014	988	995	1026	1004	1005	1014	1006	984	1014	994	986	989	1005	991	1002	1014	1006	1012
Gas Pressure	mbar	-0.03	0.16	0.24	0.12	-0.12	-0.02	0.19	-0.72	0.06	0.19	0.17	-0.21	-0.05	0.06	0.28	0.24	-0.13	-0.04	-0.11	<0.01	-0.19	-0.25	-0.02	-0.11	-0.23
Gas Flow Rate	l/hr	<0.1	0.5	0.1	0.1	<0.1	0.2	0.2	1.8	0.3	0.1	0.2	0.4	0.7	1	1.1	-0.3	-0.8	0.5	-0.9	0.2	0.8	0.9	0.6	0.1	<0.1
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	℃																			see comment						
Comment							Dry			Tap above lid therefore will not close	Tap above lid requires attention	Tap above lid requires attention. Dry	Tap above lid requires attention, dry	Tap above lid requires attention.	Tap above lid requires attention.											

Cover Level - 65.008 m AOD (March 2015)
Ground Level - 64.086 m AOD (March 2015)

Cover Level - 64.979 m AOD (May 2016)
Ground Level - 64.079 m AOD (May 2016)





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N91**						
Type Of Sample Required	Leachate	08/10/14	03/11/14	03/12/14	08/06/15	10/12/15	22/06/16
Determinand	Units						
Water Level							
Water level to top of casing	m	Dry	Dry	Dry	Dry	Dry	Dry
Borehole depth to top of casing	m	5.48	5.45	5.46	5.47	5.48	5.46
Top of casing relative to Ordnance Datum Level	m	65.01	65.01	65.01	65.01	65.01	64.98
Water level relative to Ordnance Datum	m						
Calculated purge volume	litres						
Base of Well to Ordnance Datum	m	59.53	59.56	59.55	59.54	59.53	59.52
Gas Concentrations							
Date monitored	-	08/10/14	03/11/14	03/12/14	08/06/15	10/12/15	22/06/16
Time of measurement	-	13:32	16:13	11:21	13:43	13:17	13:00
Methane	% vol	53.7	54.5	53	44	51.1	51.8
Carbon Dioxide	% vol	24.6	25.7	24.7	22.3	24.9	23.9
Oxygen	% vol	0.3	0.2	0.2	0.6	1.3	0.7
Atmospheric Pressure	mbar	985	978	1020	1030	1004	1006
Gas Pressure	mbar	-0.16	0.08	0.02	0.1	<0.01	<0.01
Gas Flow Rate	l/hr	1.2	0.5	0.8	0.2	0.8	0.4
Insitu Liquid Determinations							
pH	pH units						
Electrical Conductivity	µS/cm						
Dissolved Oxygen	mg/l						
Temperature	℃						
Comment							

Cover Level - 65.008 m AOD (March 2015)
Ground Level - 64.086 m AOD (March 2015)

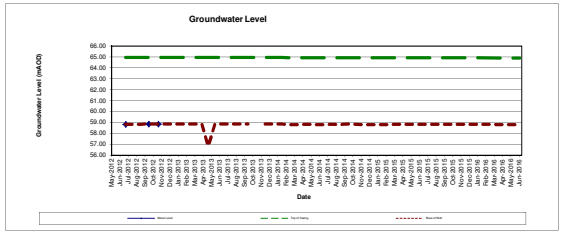
Cover Level - 64.979 m AOD (May 2016)
Ground Level - 64.079 m AOD (May 2016)

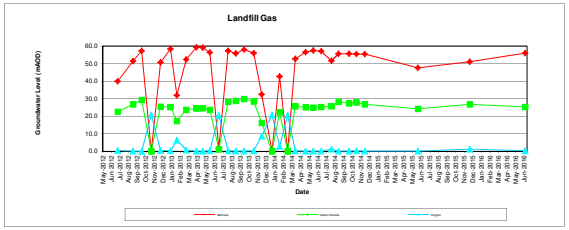
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N92																									
Type Of Sample Required	Leachate	12/07/12	04/09/12	04/10/12	08/11/12	10/12/12	15/01/13	06/02/13	11/03/13	16/04/13	09/05/13	03/06/13	04/07/13	06/08/13	03/09/13	02/10/13	05/11/13	03/12/13	08/01/14	04/02/14	04/03/14	01/04/14	07/05/14	03/06/14	01/07/14	07/08/14
Determinand	Units																									
Water Level																										
Water level to top of casing	m	6.14	6.13	6.12	6.12	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Borehole depth to top of casing	m	6.14	6.13	6.12	6.12	6.11	6.11	6.10	6.12	6.1	8.12	6.12	6.1	6.1	6.1	6.1	6.11	6.12	6.12	6.12	6.12	6.12	6.11	6.12	6.12	6.11
Top of casing relative to Ordnance Datum Level	m	64.96	64.96	64.96	64.96	64.96	64.96	64.96	64.96	64.96	64.96	64.96	64.96	64.96	64.96	64.96	64.96	64.96	64.96	64.96	64.93	64.93	64.93	64.93	64.93	64.93
Water level relative to Ordnance Datum	m	58.82		58.84	58.84																					
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m	58.82	58.83	58.84	58.84	58.85	58.85	58.86	58.84	58.86	56.84	58.84	58.86	58.86	58.86	58.86		58.84	58.84	58.84	58.81	58.81	58.82	58.81	58.81	58.82
Gas Concentrations																										
Date monitored	-	12/07/12	04/09/12	04/10/12	08/11/12	10/12/12	15/01/13	06/02/13	11/03/13	16/04/13	09/05/13	03/06/13	04/07/13	06/08/13	03/09/13	02/10/13	05/11/13	03/12/13	08/01/14	04/02/14	04/03/14	01/04/14	07/05/14	03/06/14	01/07/14	07/08/14
Time of measurement	-	11:48	13:55	16:23	14:29	10:22	10:51	10:25	09:25	11:01	11:04	12:25	15:40	15:09	13:54	13:58	10:37	11:24	10:07	11:38	15:16	15:04	11:09	12:22	15:21	12:37
Methane	% vol	39.9	51.4	57.3	<0.1	50.7	58.3	31.8	52.3	59.3	59.1	56.3	1.7	57.3	55.8	57.9	55.9	32.5	0.1	42.7	0.1	52.7	56.6	57.4	57	51.6
Carbon Dioxide	% vol	22.6	26.7	29.3	<0.1	25.5	25.4	17.3	23.7	24.4	24.6	23.6	1	28.3	28.7	29.9	28.4	16.1	<0.1	22.2	<0.1	25.7	25.1	25	25.3	25.6
Oxygen	% vol	0.5	0.1	<0.1	20.7	0.5	0.4	6.4	0.7	0.1	0.1	0.3	20.4	0.3	0.2	0.2	0.3	8.7	20.8	2.9	20.6	0.4	0.1	0.1	0.2	1.2
Atmospheric Pressure	mbar	1003	1010	995	1003	1021	1007	1006	1015	987	994	1026	1004	1005	1014	1006	983	1014	994	986	990	1005	991	1002	1013	1006
Gas Pressure	mbar	0.14	-0.18	0.16	0.25	-0.29	-0.11	-0.02	0.15	-0.31	0.01	0.14	0.1	-0.25	-0.15	0.06	0.3	0.31	-0.11	<0.01	-0.16	0.07	-0.1	-0.26	0.08	-0.23
Gas Flow Rate	l/hr	0.1	N/A	0.5	0.1	0.1	<0.1	0.1	-0.1	2.5	0.9	0.2	0.2	0.1	0.4	0.7	1	-0.1	-0.4	0.3	<0.1	0.2	1	0.7	0.6	0.2
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	℃																				see comment					
Comment		Gas tap requires replacing.	No cap on monitoring point. Dry.		Very soft sediment at base of borehole.	Dry. Very soft sediment at base of borehole	Dry. Very soft sediment at base of borehole.	Dry. Very soft sediment at base of borehole	Dry. Very soft sediment at base of borehole.								Gas tap requires replacing.		Dry							

Cover Level - 64.948m AOD (March 2015)
Ground Level - 64.015m AOD (March 2015)

Cover Level - 64.905m AOD (May 2016)
Ground Level - 64.022m AOD (May 2016)





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N92**							
Type Of Sample Required	Leachate	01/09/14	08/10/14	03/11/14	03/12/14	08/06/15	10/12/15	22/06/16
Determinand	Units							
Water Level								
Water level to top of casing	m	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Borehole depth to top of casing	m	6.12	6.09	6.11	6.12	6.11	6.1	6.11
Top of casing relative to Ordnance Datum Level	m	64.93	64.93	64.93	64.93	64.93	64.93	64.91
Water level relative to Ordnance Datum	m							
Calculated purge volume	litres							
Base of Well to Ordnance Datum	m	58.81	58.84	58.82	58.81	58.82	58.83	58.80
Gas Concentrations								
Date monitored	-	01/09/14	08/10/14	03/11/14	03/12/14	08/06/15	10/12/15	22/06/16
Time of measurement	-	15:25	13:38	16:08	11:26	13:51	13:10	12:38
Methane	% vol	55.7	55.6	55.5	55.4	47.6	51.1	56
Carbon Dioxide	% vol	28.2	27.4	27.9	26.7	24.2	26.7	25.4
Oxygen	% vol	0.1	0.2	0.3	0.2	0.1	1.3	0.3
Atmospheric Pressure	mbar	1012	985	978	1020	1030	1004	1006
Gas Pressure	mbar	-0.14	-0.08	0.06	0.04	<0.01	-0.08	<0.01
Gas Flow Rate	l/hr	0.2	0.8	0.2	0.6	0.1	0.9	0.5
Insitu Liquid Determinations								
pH	pH units							
Electrical Conductivity	µS/cm							
Dissolved Oxygen	mg/l							
Temperature	ºC							
Comment								

Cover Level - 64.948m AOD (March 2015)
Ground Level - 64.015m AOD (March 2015)

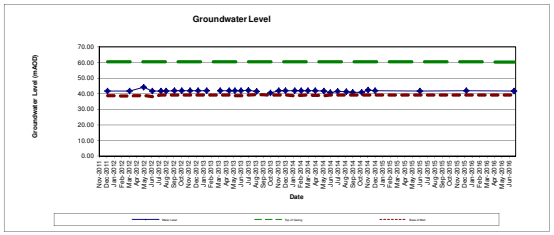
Cover Level - 64.905m AOD (May 2016)
Ground Level - 64.022m AOD (May 2016)

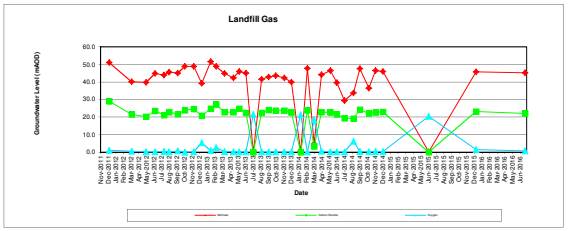
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N93																									
Type Of Sample Required	None	07/12/11	06/03/12	02/05/12	07/06/12	12/07/12	02/08/12	05/09/12	04/10/12	08/11/12	10/12/12	15/01/13	06/02/13	11/03/13	16/04/13	09/05/13	04/06/13	04/07/13	06/08/13	03/09/13	02/10/13	05/11/13	02/12/13	08/01/14	04/02/14	03/03/14
Determinand	Units																									
Water Level																										
Water level to top of casing	m	18.71	18.70	16.30	18.71	18.70	18.69	18.68	18.68	18.67	18.66	18.66	Dry	18.65	18.65	18.65	18.65	18.4	18.92	Dry	19.97	18.64	18.62	18.63	18.62	18.61
Borehole depth to top of casing	m	21.73	22.00	21.55	22.36	21.30	21.29	21.28	21.34	21.30	21.30	21.30	21.27	21.34	21.32	21.77	21.78	21.26	21.24	21.23	21.26	21.28	21.31	21.75	21.6	21.23
Top of casing relative to Ordnance Datum Level	m	60.51	60.51	60.51	60.51	60.51	60.51	60.51	60.51	60.51	60.51	60.51	60.51	60.51	60.51	60.51	60.51	60.51	60.51	60.51	60.51	60.51	60.51	60.51	60.51	60.46
Water level relative to Ordnance Datum	m	41.80	41.81	44.21	41.80	41.81	41.82	41.83	41.83	41.84	41.85	41.85		41.86	41.86	41.86	41.86	42.11	41.59		40.54	41.87	41.89	41.88	41.89	41.85
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m	38.78	38.51	38.96	38.15	39.21	39.22	39.23	39.17	39.21	39.21	39.21	39.24	39.17	39.19	38.74	38.73	39.25	39.27	39.28	39.25	39.23	39.20	38.76	38.91	39.23
Gas Concentrations																										
Date monitored	-	07/12/12	06/03/12	02/05/12	07/06/12	12/07/12	02/08/12	05/09/12	04/10/12	08/11/12	10/12/12	15/01/13	06/02/13	11/03/13	16/04/13	09/05/13	04/06/13	04/07/13	06/08/13	03/09/13	02/10/13	05/11/13	02/12/13	08/01/14	04/02/14	03/03/14
Time of measurement	-	10:47	15:08	14:53	16:15	09:46	14:11	11:04	15:35	13:32	12:30	11:54	10:50	12:15	11:40	12:07	11:55	16:06	15:48	12:14	12:47	11:16	13:55	10:55	12:06	14:20
Methane	% vol	51.0	40.1	39.7	44.9	44.0	45.6	45.0	48.8	48.9	39.2	51.6	48.9	44.9	42.2	45.9	45.1	<0.1	41.5	42.8	43.5	42.2	40	0.1	47.8	4.6
Carbon Dioxide	% vol	28.9	21.5	20.2	23.5	21.2	22.7	21.7	23.8	24.6	20.8	24.7	27.1	22.8	22.8	24.8	22.4	<0.1	22.4	24.1	23.6	23.6	22.5	<0.1	23.9	3.3
Oxygen	% vol	1.1	0.5	0.2	0.2	0.4	0.2	0.7	<0.1	0.1	5.2	0.9	2.5	0.4	0.1	0.2	0.2	21.4	0.2	0.2	0.2	0.2	0.1	21.3	0.2	18.3
Atmospheric Pressure	mbar	971	1011	1022	993	1004	998	1019	996	1004	1021	1009	1007	1016	987	995	1026	1005	1006	1016	1007	983	1023	995	987	978
Gas Pressure	mbar	-0.11	0.08	-0.15	<0.01	0.26	-0.24	<0.01	0.12	0.36	0.02	-0.08	0.07	0.14	-0.24	-0.44	0.12	-0.12	-0.2	-0.17	-0.02	0.33	0.33	-0.04	-0.03	-0.12
Gas Flow Rate	l/hr	<0.1	1.4	0.3	-0.1	0.1	0.1	0.20	0.50	0.70	0.20	<0.1	0.1	0.2	0.9	-0.6	0.1	0.1	0.3	0.1	0.5	0.5	1.1	-0.6	0.8	<0.1
Insitu Liquid Determinations																										
pH	pH units				7.3			7.0			7.1						7.1			7.0			7			7.1
Electrical Conductivity	µS/cm				3400			3870			4180						4060			4750			3330			4140
Dissolved Oxygen	mg/l				<1.0			1.4			<1.0						2.4			1.7			1.7			6.1
Temperature	℃		11.9		11.2			14.1			11.0			11.1			15.5			16.7			12.2			12.4
Comment		Mud too deep to allow sampling	Bottom of borehole very soft/muddy	OK	Very soft sediment at base of borehole. Spot sample taken.	Very soft sediment.	Very soft sediment at base of borehole	Very soft sediment at base of borehole.		Very soft sediment at base of borehole.	Dry. Very soft sediment at base of borehole	Very soft sediment at base of borehole.	Dry. Very soft sediment at base of borehole	Very soft sediment at base of borehole.	Tap above lid therefore will not close	Tap above lid therefore will not close	Tap above lid requires attention	Tap above lid requires attention	Tap above lid requires attention.	Tap above lid requires attention.		Oil on surface of water.		Very spongy	Very spongy. Difficult to measure depth.	

Cover Level - 60.414m AOD (March 2015)
Ground Level - 59.215m AOD (March 2015)

Cover Level - 60.361m AOD (May 2016)
Ground Level - 59.186m AOD (May 2016)





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N93**												
Type Of Sample Required	None	02/04/14	07/05/14	02/06/14	02/07/14	07/08/14	02/09/14	08/10/14	03/11/14	03/12/14	03/06/15	10/12/15	22/06/16
Determinand	Units												
Water Level													
Water level to top of casing	m	18.62	18.64	19.68	18.92	19.23	19.52	19.5	18.16	18.6	18.62	18.56	18.6
Borehole depth to top of casing	m	21.57	21.72	21.28	21.24	21.26	21.25	21.26	21.26	21.28	21.31	21.26	21.2
Top of casing relative to Ordnance Datum Level	m	60.46	60.46	60.46	60.46	60.46	60.46	60.46	60.46	60.46	60.41	60.46	60.36
Water level relative to Ordnance Datum	m	41.84	41.82	40.78	41.54	41.23	40.94	40.96	42.30	41.86	41.79	41.90	41.76
Calculated purge volume	litres												
Base of Well to Ordnance Datum	m	38.89	38.74	39.18	39.22	39.20	39.21	39.20	39.20	39.18	39.10	39.20	39.16
Gas Concentrations													
Date monitored	-	02/04/14	07/05/14	02/06/14	02/07/14	07/08/14	02/09/14	08/10/14	03/11/14	03/12/14	03/06/15	10/12/15	22/06/16
Time of measurement	-	12:40	10:24	15:13	12:20	12:24	14:45	13:56	15:44	11:52	12:34	13:49	12:16
Methane	% vol	44.1	46.4	39.6	29.4	33.7	47.5	36.5	46.5	46	0.2	45.8	45.3
Carbon Dioxide	% vol	22.8	22.6	21.4	19.3	19.1	24.3	22	22.6	22.9	<0.1	23.2	22.1
Oxygen	% vol	0.5	0.1	0.1	0.2	6.2	0.3	0.2	0.3	0.4	20.3	1.4	0.6
Atmospheric Pressure	mbar	1004	991	1009	1008	1006	1017	986	978	1020	1008	1005	1007
Gas Pressure	mbar	0.09	-0.1	-0.22	0.32	-0.12	-0.38	-0.27	0.15	0.09	-0.18	<0.01	-0.14
Gas Flow Rate	l/hr	0.1	0.7	0.5	0.6	-0.1	<0.1	0.3	0.4	0.4	-0.8	0.7	<0.1
Insitu Liquid Determinations													
pH	pH units			7			7				7		6.8
Electrical Conductivity	µS/cm			4570			6590				3970		4750
Dissolved Oxygen	mg/l										0.89		1.04
Temperature	ºC			14.2			14.7				15		15.6
Comment			Very spongy.										

Cover Level - 60.414m AOD (March 2015)
Ground Level - 59.215m AOD (March 2015)

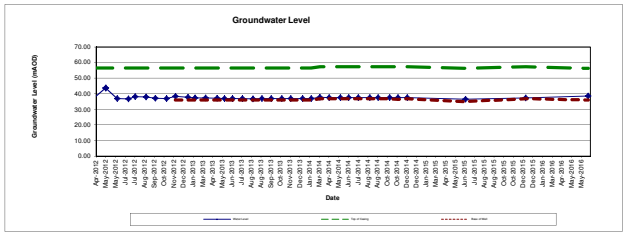
Cover Level - 60.361m AOD (May 2016)
Ground Level - 59.186m AOD (May 2016)

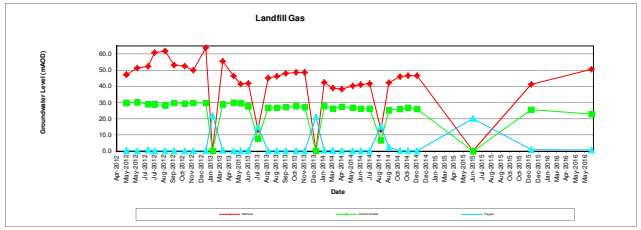
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N94																											
Type Of Sample Required	None	14/03/12	02/05/12	02/05/12	07/06/12	12/07/12	02/08/12	05/09/12	04/10/12	08/11/12	06/12/12	15/01/13	06/02/13	11/03/13	16/04/13	09/05/13	03/06/13	04/07/13	06/08/13	03/09/13	02/10/13	05/11/13	02/12/13	08/01/14	04/02/14	04/03/14
Determinand	Units																											
Water Level																												
Water level to top of casing	m	21.33	12.92	12.92	19.63	19.81	18.38	18.62	19.37	19.57	18.27	18.87	19.18	19.32	19.41	19.63	19.66	19.6	19.85	19.58	19.69	19.71	19.74	19.73	19.66	19.6
Borehole depth to top of casing	m	21.94	20.84	20.84	20.64	20.61	20.59	20.60	20.57	20.61	20.57	20.56	20.56	20.57	20.6	20.54	20.58	20.52	20.5	20.51	20.53	20.5	20.55	20.57	20.57	20.53
Top of casing relative to Ordnance Datum Level	m	56.59	56.59	56.59	56.59	56.59	56.59	56.59	56.59	56.59	56.59	56.59	56.59	56.59	56.59	56.59	56.59	56.59	56.59	56.59	56.59	56.59	56.59	56.59	56.59	57.34
Water level relative to Ordnance Datum	m	35.26	43.67	43.67	36.96	36.78	38.21	37.97	37.22	37.02	38.32	37.72	37.41	37.27	37.18	36.96	36.93	36.99	36.74	37.01	36.90	36.88	36.85	36.86	36.93	37.74
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m										36.02	36.03	36.03	36.02	35.99	36.05	36.01	36.07	36.09	36.08	36.06	36.09	36.04	36.02	36.02	36.81
Gas Concentrations																										
Date monitored	-		02/05/12	02/05/12	07/06/12	12/07/12	02/08/12	05/09/12	04/10/12	08/11/12	06/12/12	15/01/13	06/02/13	11/03/13	16/04/13	09/05/13	03/06/13	04/07/13	06/08/13	03/09/13	02/10/13	05/11/13	02/12/13	08/01/14	04/02/14	04/03/14
Time of measurement	-		15:10	15:10	16:31	09:21	13:52	14:52	15:06	13:56	13:00	12:17	10:38	12:55	11:53	12:21	15:56	16:21	16:14	11:05	13:00	11:49	11:02	11:24	12:19	12:57
Methane	% vol		47.2	47.2	51.3	52.4	60.9	61.8	53.1	52.6	49.9	63.8	<0.1	55.6	46.5	41.4	41.9	13.1	45.2	46.2	47.9	48.5	48.5	0.2	42.4	38.8
Carbon Dioxide	% vol		29.7	29.7	30.2	29.1	28.9	28.3	29.7	29.5	29.8	29.7	0.1	28.8	29.9	29.6	27.7	7.7	26.8	26.8	27.2	27.9	27.2	0.1	27.9	26.2
Oxygen	% vol		0.4	0.4	0.1	0.7	0.2	0.1	0.1	0.2	0.1	0.4	22.1	0.5	0.2	0.2	0.3	15	0.2	0.1	0.1	0.1	0.1	21.1	0.5	0.4
Atmospheric Pressure	mbar		1022	1022	994	1003	999	1020	996	1003	993	1009	1007	1016	987	995	1027	1005	1006	1016	1007	984	1025	996	987	989
Gas Pressure	mbar		-0.33	-0.33	-0.25	<0.01	-0.27	<0.01	0.15	0.26	-0.23	-0.07	0.24	-0.05	0.08	-0.04	0.15	-0.03	-0.27	-0.02	0.12	0.27	0.36	-0.14	0.03	<0.01
Gas Flow Rate	l/hr		<0.1	<0.1	-0.1	<0.1	0.3	<0.1	<0.1	0.7	0.9	0.3	0.1	0.2	0.6	-0.2	0.1	<0.1	0.2	0.4	1.2	0.9	0.9	-0.6	0.8	0.4
Insitu Liquid Determinations																										
pH	pH units				7.4						7.3						7.4						7.4			
Electrical Conductivity	µS/cm				9020						4960						10200						7860			
Dissolved Oxygen	mg/l				<1.0						<1.0						0.5						3.7			
Temperature	℃	11.7			13.4						13.9			12.8			20.2			20.6			14.5			11.7
Comment					Very soft sediment at base of borehole. Spot sample taken.	Very soft sediment.	Very soft sediment at base of borehole	Very soft sediment at base of borehole.										Lid getting very stiff	Lid getting very stiff requires attention.	Lid getting stiff, requires attention.				Spongy			

Cover Level - 56.418 m AOD (March 2015)
Ground Level - 55.408 m AOD (March 2015)

Cover Level - 56.390 m AOD (May 2016)
Ground Level - 55.342 m AOD (May 2016)





Fairhurst Partners
Environmental Monitoring
June 2016

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N94**												
Type Of Sample Required	None	02/04/14	07/05/14	02/06/14	02/07/14	07/08/14	02/09/14	08/10/14	03/11/14	03/12/14	03/06/15	10/12/15	22/06/16
Determinand	Units												
Water Level													
Water level to top of casing	m	19.72	19.76	19.76	19.75	19.76	19.78	19.76	19.77	19.81	19.91	19.95	17.73
Borehole depth to top of casing	m	20.5	20.51	20.54	20.5	20.51	20.49	20.51	20.84	20.5	21.52	20.48	20.45
Top of casing relative to Ordnance Datum Level	m	57.34	57.34	57.34	57.34	57.34	57.34	57.34	57.34	57.34	56.42	57.34	56.39
Water level relative to Ordnance Datum	m	37.62	37.58	37.58	37.59	37.58	37.56	37.58	37.57	37.53	36.51	37.39	38.66
Calculated purge volume	litres												
Base of Well to Ordnance Datum	m	36.84	36.83	36.80	36.84	36.83	36.85	36.83	36.50	36.84	34.90	36.86	35.94
Gas Concentrations													
Date monitored	-	02/04/14	07/05/14	02/06/14	02/07/14	07/08/14	02/09/14	08/10/14	03/11/14	03/12/14	03/06/15	10/12/15	22/06/16
Time of measurement	-	12:56	10:38	14:46	12:32	12:00	15:59	14:06	15:55	12:13	13:32	14:17	12:00
Methane	% vol	38.3	40.2	41	41.6	13.2	42.2	46	46.7	46.6	0.2	41.2	50.6
Carbon Dioxide	% vol	27.5	26.9	26.2	26.2	6.7	25.2	26.1	26.8	26.1	<0.1	25.6	22.9
Oxygen	% vol	0.2	0.2	0.2	0.1	15.3	2.4	0.4	0.1	0.2	20.1	1	0.7
Atmospheric Pressure	mbar	1004	991	1009	1007	1007	1018	985	978	1020	1010	1004	1007
Gas Pressure	mbar	0.07	-0.03	-0.35	0.17	0.02	-0.16	-0.2	0.1	0.04	-0.26	-0.41	<0.01
Gas Flow Rate	l/hr	0.2	0.8	0.9	0.6	<0.1	0.8	-0.4	0.5	0.9	-0.7	1.2	-0.1
Insitu Liquid Determinations													
pH	pH units			7.4							7.8		7.1
Electrical Conductivity	µS/cm			8480							9250		5070
Dissolved Oxygen	mg/l										insufficient sample		0.4
Temperature	ºC			14.8			19				18.5		17.7
Comment									Spongy at bottom.	Spongy at bottom.			

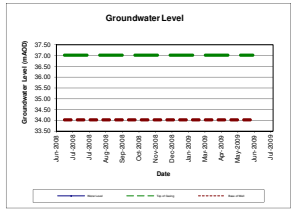
Cover Level - 56.418 m AOD (March 2015)
Ground Level - 55.408 m AOD (March 2015)

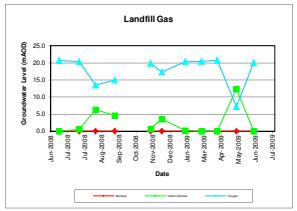
Cover Level - 56.390 m AOD (May 2016)
Ground Level - 55.342 m AOD (May 2016)

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N96 DOON													
Type Of Sample Required	None	16/06/08	22/07/08	20/08/08	23/09/08	29/10/08	26/11/08	16/12/08	27/01/09	25/02/09	25/03/09	28/04/09	29/05/09	
Determinand	Units													
Water Level														
Water level to top of casing	m	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	
Borehole depth to top of casing	m	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
Top of casing relative to Ordnance Datum Level	m	37.02	37.02	37.02	37.02	37.02	37.02	37.02	37.02	37.02	37.02	37.02	37.02	
Water level relative to Ordnance Datum	m													
Calculated purge volume	litres													
Base of Well to Ordnance Datum	m	34.02	34.02	34.02	34.02	34.02	34.02	34.02	34.02	34.02	34.02	34.02	34.02	
Gas Concentrations														
Date monitored	-	16/06/2008	22/07/2008	20/08/2008	23/09/2008	29/10/2008	26/11/2008	16/12/2008	27/01/2009	25/02/2009	25/03/2009	28/04/2009	29/05/2009	
Time of measurement	-		0:00	16:20	12:00		01:40	03:21	01:40	00:14	15:44	14:40	13:52	
Methane	% vol	0.0	0.0	0.0	0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Carbon Dioxide	% vol	0.0	0.6	6.3	4.6		0.7	3.6	0.2	0.0	0.0	12.4	0.0	
Oxygen	% vol	20.7	20.3	13.5	15		19.9	17.3	20.3	20.4	20.8	7.2	20.1	
Atmospheric Pressure	mbar	1002	1004	991	1019		1015	1001	1011	1005	996	1010	1028	
Gas Pressure	mbar	<0.1	damaged	damaged	damaged		0	-0.01	0		0	0.07	0.09	
Gas Flow Rate	l/hr	<0.1	damaged	damaged	damaged		0	0	0		<0.1	<0.1	<0.1	
Insitu Liquid Determinations														
pH	pH units													
Electrical Conductivity	µS/cm													
Dissolved Oxygen	mg/l													
Temperature	℃													
Comment						Equipment Failure								

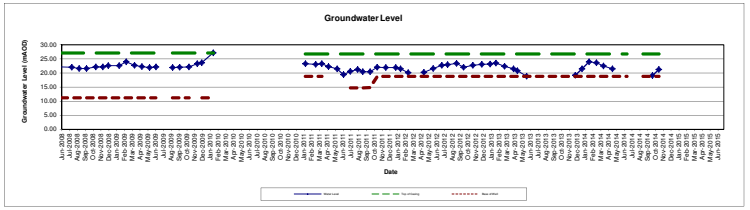
Borehole removed as part of Phase 1 restoration works

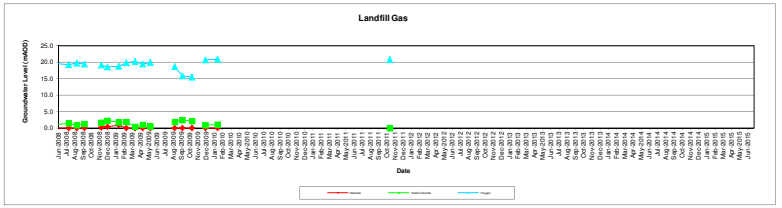




Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	NA01																										
Type Of Sample Required	None	18/06/08	29/07/08	27/08/08	25/09/08	31/10/08	27/11/08	19/12/08	30/01/09	27/02/09	31/03/09	29/04/09	28/05/09	22/06/09	31/07/09	26/08/09	23/09/09	29/10/09	30/11/09	18/12/09	01/02/10	15/11/10	26/01/11	(Feb Mon) 07/03/11	31/03/11	26/04/11
Determinand	Units																										
Water Level																											
Water level to top of casing	m	5.03	5.05	5.54	5.58	5.01	4.98	4.55	4.54	3.11	4.36	4.82	5.18	5.02		5.20	5.11	4.99	3.84	3.52	0.00		3.45	3.70	3.51	4.46
Borehole depth to top of casing	m	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00		16.00	16.00	16.00	16.00	16.00	16.00		7.96	7.93	8.00	
Top of casing relative to Ordnance Datum Level	m	27.17	27.17	27.17	27.17	27.17	27.17	27.17	27.17	27.17	27.17	27.17	27.17	27.17		27.17	27.17	27.17	27.17	27.17	27.17		26.80	26.80	26.80	26.80
Water level relative to Ordnance Datum	m	22.14	22.12	21.63	21.59	22.16	22.19	22.62	22.63	24.06	22.81	22.35	21.99	22.15		21.97	22.06	22.18	23.33	23.65	27.17		23.35	23.10	23.29	22.34
Calculated purge volume	litres	87.76	87.60	83.68	83.36	87.92	88.16	91.60	91.68	103.12	93.12	89.44	86.56	87.84		86.40	87.12	88.08		99.84	128.00					
Base of Well to Ordnance Datum	m	11.17	11.17	11.17	11.17	11.17	11.17	11.17	11.17	11.17	11.17	11.17	11.17	11.17		11.17	11.17	11.17		11.17	11.17		18.84	18.87	18.80	
Gas Concentrations																											
Date monitored	-	18/6/08	29/7/08	27/8/08	25/9/08	31/10/08	27/11/08	19/12/08	30/1/09	27/2/09	31/3/09	29/04/2009	28/05/2009	22/06/2009		26/08/2009	23/09/2009	29/10/2009		18/12/2009	01/02/2010		26/01/2011	07/03/2011	31/03/2011	26/04/2011
Time of measurement	-		0.00	11:43	10:19		08:09	08:52	06:28	11:55	14:14	14:30	13:35			13:30	12:41	12:23		12:03	03:36		14:00			10:57
Methane	% vol	0.0	0.0	0.0	0.0		0.2	0.4	0.8	0.0	0.0	0.0	0.0			0.0	0.0	0.0		0.0	0.0					
Carbon Dioxide	% vol	1.0	1.4	0.8	1.2		1.6	2.2	1.7	1.8	0.4	0.9	0.5			1.8	2.4	2.1		0.8	1.0					
Oxygen	% vol	19.5	19.2	19.7	19.4		19.1	18.5	18.7	19.8	20.2	19.4	19.9			18.6	15.8	15.4		20.7	20.9					
Atmospheric Pressure	mbar	991	1000	998	1025		1007	1005	1003	1015	1024	1008	1022			996	1013	1019		1017	1013					
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1		0	0.04	0.03	0.06	0.02	0.05	0.05			0	0.01	0.02		0.01	0					
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1		<0.1	0.1	<0.1	<0.1	<0.1	0.3	0.3			<0.1	<0.1	<0.1		<0.1	0.1					
Insitu Liquid Determinations																											
pH	pH units																										
Electrical Conductivity	µS/cm																										
Dissolved Oxygen	mg/l																										
Temperature	℃																										
Comment						Equipment Failure									Lost/ Vegetation overgrown				Gas analysis lost			Monitoring visit not undertaken due to adverse weather				





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**NA01**																									
Type Of Sample Required	None	30/05/11	23/06/11	20/07/11	18/08/11	06/09/11	05/10/11	02/11/11	05/12/11	13/01/12	01/02/12	02/03/12	03/04/12	02/05/12	07/06/12	11/07/12	02/08/12	06/09/12	03/10/12	08/11/12	13/12/12	15/01/13	06/02/13	12/03/13	16/04/13	01/05/13
Determinand	Units																									
Water Level																										
Water level to top of casing	m	5.25	7.38	6.20	5.56	6.30	6.28	4.68	4.88	4.85	5.29	6.61	Dry	6.53	5.22	4.08	3.86	3.39	4.77	4.02	3.65	3.58	3.27	4.42	5.27	5.99
Borehole depth to top of casing	m			12.10	12.02	12.07	12.00	7.93	7.99	7.95	7.97	7.95	7.95	7.94	7.96	7.94	7.95	7.96	7.96	7.96	7.96	7.94	7.97	7.95	7.95	7.95
Top of casing relative to Ordnance Datum Level	m	26.80	26.80	26.80	26.80	26.80	26.80	26.80	26.80	26.80	26.80	26.80	26.80	26.80	26.80	26.80	26.80	26.80	26.80	26.80	26.80	26.80	26.80	26.80	26.80	26.80
Water level relative to Ordnance Datum	m	21.55	19.42	20.60	21.24	20.50	20.52	22.12	21.92	21.95	21.51	20.19		20.27	21.58	22.72	22.94	23.41	22.03	22.78	23.15	23.22	23.53	22.38	21.53	20.81
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m			14.70	14.78	14.73	14.80	18.87	18.81	18.85	18.83	18.85	18.85	18.86	18.84	18.86	18.85	18.84	18.84	18.84	18.84	18.86	18.83	18.85	18.85	18.85
Gas Concentrations																										
Date monitored	-	30/05/2011	23/06/2011	20/07/11				02/11/11													13/12/12			12/03/13	16/04/13	
Time of measurement	-	15:57	12:17	11:21				11:22													11:35			16:02	14:18	
Methane	% vol							<0.1																		
Carbon Dioxide	% vol							<0.1																		
Oxygen	% vol							20.8																		
Atmospheric Pressure	mbar							1000																		
Gas Pressure	mbar							-0.17																		
Gas Flow Rate	l/hr							<0.1																		
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	℃																									
Comment																										

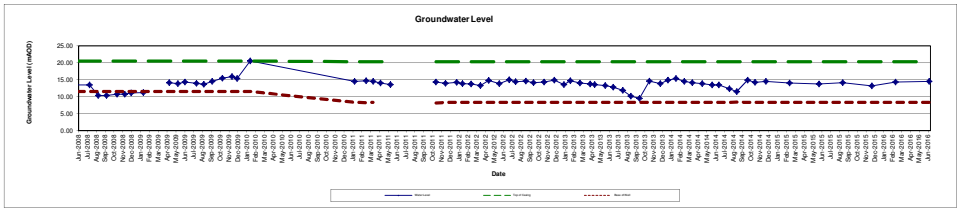
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**NA01**																			
Type Of Sample Required	None	06/06/13	04/07/13	06/08/13	03/09/13	02/10/13	05/11/13	12/12/13	08/01/14	04/02/14	05/03/14	01/04/14	06/05/14	09/06/14	02/07/14	07/08/14	02/09/14	09/10/14	03/11/14	
Determinand	Units																			
Water Level																				
Water level to top of casing	m	7.95	Dry	Dry	Dry	Dry	Dry	7.59	5.24	2.78	3.19	4.29	5.33	Dry	Dry		Dry	7.65	5.55	
Borehole depth to top of casing	m	7.95	7.94	7.94	7.94	7.91	7.95	7.94	7.95	7.94	7.97	7.95	7.96	7.94	7.95		7.93	7.96	7.98	
Top of casing relative to Ordnance Datum Level	m	26.80	26.80	26.80	26.80	26.80	26.80	26.80	26.80	26.80	26.80	26.80	26.80	26.80	26.80		26.80	26.80	26.80	
Water level relative to Ordnance Datum	m	18.85						19.21	21.56	24.02	23.61	22.51	21.47					19.15	21.25	
Calculated purge volume	litres																			
Base of Well to Ordnance Datum	m	18.85	18.86	18.86	18.86	18.89	18.85	18.86	18.85	18.86	18.83	18.85	18.84	18.86	18.85		18.87	18.84	18.82	
Gas Concentrations																				
Date monitored	-																			
Time of measurement	-																			
Methane	% vol																			
Carbon Dioxide	% vol																			
Oxygen	% vol																			
Atmospheric Pressure	mbar																			
Gas Pressure	mbar																			
Gas Flow Rate	l/hr																			
Insitu Liquid Determinations																				
pH	pH units																			
Electrical Conductivity	µS/cm																			
Dissolved Oxygen	mg/l																			
Temperature	℃																			
Comment																Could not be located in the extensive undergrowth in this area.				

No longer monitored (14th November 2014)

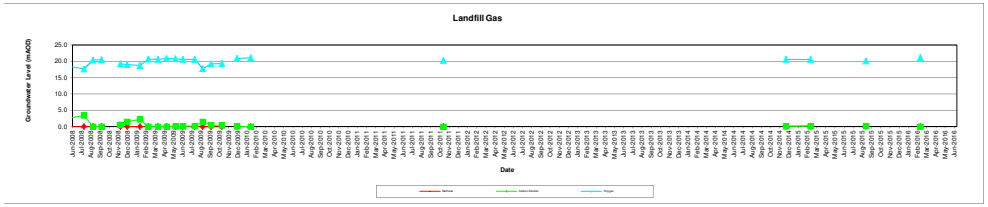
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	A02																						(Feb Mon)			
Type Of Sample Required	None	18/06/08	29/07/08	27/08/08	25/09/08	31/10/08	27/11/08	19/12/08	30/01/09	27/02/09	31/03/09	29/04/09	28/05/09	22/06/09	31/07/09	26/08/09	23/09/09	29/10/09	30/11/09	18/12/09	01/02/10	26/01/11	07/03/11	31/03/11	26/04/11	30/05/11
Determinand	Units																									
Water Level																										
Water level to top of casing	m	7.09	7.12	10.22	10.2	9.87	9.86	9.46	9.40			6.45	6.67	6.19	6.65	6.93	6.01	5.13	4.62	5.23	0.00	5.90	5.70	5.85	6.34	6.83
Borehole depth to top of casing	m	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00			9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	12.02	12.10	12.05		
Top of casing relative to Ordnance Datum Level	m	20.59	20.59	20.59	20.59	20.59	20.59	20.59	20.59	20.59	20.59	20.59	20.59	20.59	20.59	20.59	20.59	20.59	20.59	20.59	20.59	20.40	20.40	20.40	20.40	20.40
Water level relative to Ordnance Datum	m	13.50	13.47	10.37	10.39	10.72	10.73	11.13	11.19			14.14	13.92	14.40	13.94	13.66	14.58	15.46	15.97	15.36	20.59	14.50	14.70	14.55	14.06	13.57
Calculated purge volume	litres	15.28	15.04	-9.76	-9.60	-6.96	-6.88	-3.68	-3.20			20.40	18.64	22.48	18.80	16.56	23.92	30.96		30.16	72.00					
Base of Well to Ordnance Datum	m	11.59	11.59	11.59	11.59	11.59	11.59	11.59	11.59	11.59	11.59	11.59	11.59	11.59	11.59	11.59	11.59	11.59	11.59	11.59	11.59	8.38	8.30	8.35		
Gas Concentrations																										
Date monitored	-	18/06/08	29/07/08	27/08/08	25/09/08	31/10/08	27/11/08	19/12/08	30/01/09	27/02/09	31/03/09	29/04/2009	28/05/2009	22/06/2009	31/07/2009	26/08/2009	23/09/2009	29/10/2009		18/12/2009	01/02/2010					
Time of measurement	-		00:00	11:26	06:57		06:00	06:43	03:36	11:51	02:24	14:50	13:45	08:52		13:24	12:53	12:35		12:11	06:28					
Methane	% vol	0.0	0.0	0	0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0					
Carbon Dioxide	% vol	2.7	3.4	0	0		0.6	1.5	2.2	0.0	0.0	0.0	0.1	0.1	0.2	1.5	0.5	0.4		0.1	0.0					
Oxygen	% vol	18.4	17.7	20.4	20.5		19.2	19.0	18.8	20.7	20.6	20.9	20.8	20.6	20.6	17.8	19.2	19.3		20.9	21.1					
Atmospheric Pressure	mbar	992	1000	1000	1025		1007	1005	1003	1015	1025	1009	1023	1024	1012	997	1014	1020		1018	1014					
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1		0.01	0.02	-0.02	0.08	0	3.63	3.63	0.02	0.05	0	0.02	0.03		0.03	0.01					
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1		<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	0.1					
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	℃																									
Comment																			Gas analysis lost					Tap closed but pipe not sealed properly	Cap/ tap present but not well sealed



Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	A02																											
Type Of Sample Required	None	20/07/11	18/08/11	07/09/11	05/10/11	02/11/11	05/12/11	13/01/12	01/02/12	02/03/12	03/04/12	02/05/12	07/06/12	11/07/12	02/08/12	06/09/12	03/10/12	08/11/12	13/12/12	15/01/13	06/02/13	12/03/13	16/04/13	01/05/13	06/06/13	04/07/13
Determinand	Units																											
Water Level																												
Water level to top of casing	m					6.03	6.43	6.15	6.5	6.64	7.04	5.57	6.52	5.38	5.91	5.73	6.27	6.01	5.47	6.80	5.69	6.28	6.59	6.79	7.1	7.55
Borehole depth to top of casing	m					12.28	12.05	12.05	12.08	12.02	12.02	12.01	12.05	12.01	12.04	12.03	12.05	12.05	12.03	12.03	12.02	12.00	12.01	12.03	12.04	12.01
Top of casing relative to Ordnance Datum Level	m					20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40
Water level relative to Ordnance Datum	m					14.37	13.97	14.25	13.90	13.76	13.36	14.83	13.88	15.02	14.49	14.67	14.13	14.39	14.93	13.60	14.71	14.12	13.81	13.61	13.30	12.85
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m					8.12	8.35	8.35	8.32	8.38	8.38	8.39	8.35	8.39	8.36	8.37	8.35	8.35	8.37	8.37	8.38	8.40	8.39	8.37	8.36	8.39
Gas Concentrations																										
Date monitored	-					02/11/11																				
Time of measurement	-					11:17																				
Methane	% vol					<0.1																				
Carbon Dioxide	% vol					<0.1																				
Oxygen	% vol					20.3																				
Atmospheric Pressure	mbar					1001																				
Gas Pressure	mbar					-0.07																				
Gas Flow Rate	l/hr					<0.1																				
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	°C																									
Comment		Presumed buried under dead ferns	Presumed buried under dead ferns	Buried under dead ferns	Buried under dead ferns																					



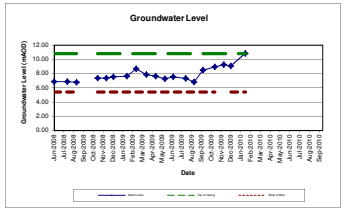
Ness Farm Landfill
Field Monitoring Sheet

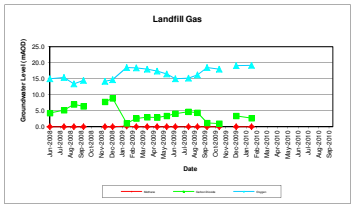
Sampling Location	**A02**																							
Type Of Sample Required	None	06/08/13	03/09/13	02/10/13	05/11/13	12/12/13	08/01/14	04/02/14	05/03/14	01/04/14	06/05/14	09/06/14	02/07/14	07/08/14	02/09/14	09/10/14	03/11/14	11/12/14	03/03/15	11/06/15	02/09/15	11/12/15	01/03/16	24/06/16
Determinand	Units																							
Water Level																								
Water level to top of casing	m	8.51	10.19	10.91	5.78	6.49	5.44	5.03	5.83	6.21	6.49	6.94	6.87	8.07	8.84	5.45	6.12	5.88	6.36	6.59	6.2	7.14	6.05	5.87
Borehole depth to top of casing	m	12.02	12.03	12.02	12.02	12.01	12.03	12.05	12.04	12.03	12.03	12.03	12.04	12.03	11.99	12.06	12.04	12.05	12.01	12.03	12.02	12.02	12.05	12
Top of casing relative to Ordnance Datum Level	m	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40	20.40
Water level relative to Ordnance Datum	m	11.89	10.21	9.49	14.62	13.91	14.96	15.37	14.57	14.19	13.91	13.46	13.53	12.33	11.56	14.95	14.28	14.52	14.04	13.81	14.20	13.26	14.35	14.53
Calculated purge volume	litres																							
Base of Well to Ordnance Datum	m	8.38	8.37	8.38	8.38	8.39	8.37	8.35	8.36	8.37	8.37	8.37	8.36	8.37	8.41	8.34	8.36	8.35	8.39	8.37	8.38	8.38	8.35	8.40
Gas Concentrations																								
Date monitored	-																	11/12/14	03/03/15		02/09/15		01/03/16	24/06/16
Time of measurement	-																	10:35	13:53		12:30		14:08	14:55
Methane	% vol																	0.1	0.2		0.1		<0.1	
Carbon Dioxide	% vol																	0.1	0.1		0.2		<0.1	
Oxygen	% vol																	20.6	20.6		20.1		21.2	
Atmospheric Pressure	mbar																	988	1002		1015		993	
Gas Pressure	mbar																	0.08	0.1		0.11		-0.19	
Gas Flow Rate	l/hr																	<0.1	0.1		-0.1		<0.1	
Insitu Liquid Determinations																								
pH	pH units																							
Electrical Conductivity	µS/cm																							
Dissolved Oxygen	mg/l																							
Temperature	℃																							
Comment																								Gas measurements missed

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	A03																				
Type Of Sample Required	None	18/06/2008	29/07/2008	27/08/2008	25/09/2008	31/10/08	27/11/08	19/12/08	30/01/09	27/02/09	31/03/09	29/04/09	28/05/09	22/06/09	31/07/09	26/08/09	23/09/09	29/10/09	26/11/09	18/12/09	01/02/10
Determinand	Units																				
Water Level																					
Water level to top of casing	m	3.93	3.93	4.06		3.47	3.44	3.26	3.21	2.14	2.98	3.21	3.54	3.30	3.52	4.00	2.35	1.90	1.55	1.76	0.00
Borehole depth to top of casing	m	5.40	5.40	5.40		5.40	5.40	5.40	5.40	5.40	5.40	5.40	5.40	5.40	5.40	5.40	5.40	5.40	5.40	5.40	5.40
Top of casing relative to Ordnance Datum Level	m	10.81	10.81	10.81		10.81	10.81	10.81	10.81	10.81	10.81	10.81	10.81	10.81	10.81	10.81	10.81	10.81	10.81	10.81	10.81
Water level relative to Ordnance Datum	m	6.88	6.88	6.75		7.34	7.37	7.55	7.60	8.67	7.83	7.60	7.27	7.51	7.29	6.81	8.46	8.91	9.26	9.05	10.81
Calculated purge volume	litres		11.76	10.72		15.44	15.68	17.12	17.52	26.08	19.36	17.52	14.88	16.80	15.04	11.20	24.40	28.00		29.12	43.20
Base of Well to Ordnance Datum	m	5.41	5.41	5.41		5.41	5.41	5.41	5.41	5.41	5.41	5.41	5.41	5.41	5.41	5.41	5.41	5.41		5.41	5.41
Gas Concentrations																					
Date monitored	-	18/06/08	29/07/08	27/08/08	25/09/08	31/10/08	27/11/08	19/12/08	30/01/09	27/02/09	31/03/09	29/04/2009	28/05/2009	22/06/2009	31/07/2009	26/08/2009	23/09/2009	29/10/2009		18/12/2009	01/02/2010
Time of measurement	-		0	11:34	16.37		05:02	05:45	05:02	11:43	14:02	15:10	14:11	06:57		13:13	13:09	12:49		12:18	08:09
Methane	% vol	0.0	0.0	0.0	0		0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Carbon Dioxide	% vol	4.3	5.2	7	6.4		7.8	8.9	1.1	2.6	3.0	2.9	3.4	4.1	4.7	4.4	1.2	1.0		3.4	2.7
Oxygen	% vol	15	15.4	13.4	14.5		14.2	14.7	18.5	18.4	18.0	17.4	16.5	15.0	15.2	16.2	18.5	18.0		19.1	19.2
Atmospheric Pressure	mbar	993	1000	1001	1025		1007	1005	1003	1015	1027	1009	1023	1023	1014	999	1014	1020		1019	1015
Gas Pressure	mbar	<0.1	<0.1	<0.1	0.1		0	0.08	-0.02	0.05	0.03	0.08	0.08	0.02	0	0	0.05	0.06		0	0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	0.1		<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	0.1
Insitu Liquid Determinations																					
pH	pH units																				
Electrical Conductivity	µS/cm																				
Dissolved Oxygen	mg/l																				
Temperature	℃																				
Comment						Equipment Failure													Gas analysis lost		

Removed as part of Phase 2 restoration works

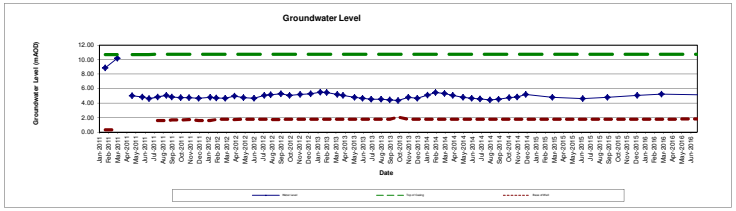


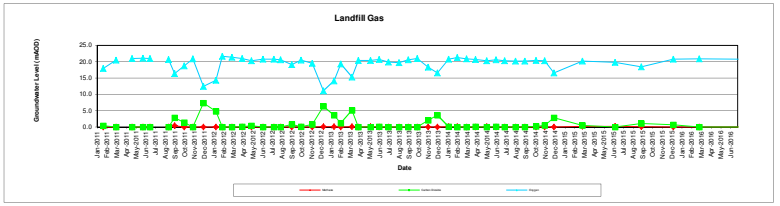


Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N99A		(Feb Mon)																						
Type Of Sample Required	None	26/01/11	07/03/11	31/03/11	26/04/11	30/05/11	21/06/11	20/07/11	18/08/11	06/09/11	06/10/11	02/11/11	05/12/11	12/01/12	01/02/12	02/03/12	03/04/12	02/05/12	07/06/12	11/07/12	01/08/12	05/09/12	04/10/12	08/11/12	13/12/12
Determinand	Units																								
Water Level																									
Water level to top of casing	m	1.87	0.53		5.69	5.87	6.09	5.89	5.67	5.86	5.97	5.98	6.05	5.92	5.99	6.04	5.74	5.96	6.06	5.66	5.58	5.42	5.67	5.54	5.44
Borehole depth to top of casing	m	10.40	10.40					9.10	9.10	9.02	9.04	8.98	9.10	9.14	8.98	8.94	8.97	8.96	8.95	8.95	8.99	8.98	8.96	8.96	8.95
Top of casing relative to Ordnance Datum Level	m	10.70	10.70		10.70	10.70	10.70	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71
Water level relative to Ordnance Datum	m	8.83	10.17		5.01	4.83	4.61	4.82	5.04	4.85	4.74	4.73	4.66	4.79	4.72	4.67	4.97	4.75	4.65	5.05	5.13	5.29	5.04	5.17	5.27
Calculated purge volume	litres																								
Base of Well to Ordnance Datum	m	0.30	0.30					1.61	1.61	1.69	1.67	1.73	1.61	1.57	1.73	1.77	1.74	1.75	1.76	1.76	1.72	1.73	1.75	1.75	1.76
Gas Concentrations																									
Date monitored	-	26/01/2011	07/03/2011		26/04/11	30/05/11	21/06/11	20/07/11	18/08/11	06/09/11	06/10/11	02/11/11	05/12/12	12/01/12	01/02/12	02/03/12	03/04/12	02/05/12	07/06/12	11/07/12	01/08/12	05/09/12	04/10/12	08/11/12	13/12/12
Time of measurement	-	14:20			12:00	15:29	11:15	11:56	12:02	16:41	14:07	12:34	11:04	09:55	09:37	10:32	10:00	12:33	14:37	10:43	13:58	12:34	14:16	12:26	12:48
Methane	% vol	<0.1	<0.1		<0.1	<0.1	<0.1		<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
Carbon Dioxide	% vol	0.4	0.0		<0.1	<0.1	<0.1		<0.1	2.8	1.4	<0.1	7.4	4.8	<0.1	<0.1	0.1	0.4	<0.1	<0.1	<0.1	0.8	0.1	0.8	6.4
Oxygen	% vol	18.0	20.5		21	21.1	21.0		20.7	16.4	18.8	20.9	12.5	14.3	21.7	21.4	21.0	20.3	20.8	20.8	20.6	19.1	20.5	19.5	11.1
Atmospheric Pressure	mbar	1021	1025		1031	1006	1009		1015	982	993	1002	997	1018	1040	1026	1011	1027	999	1008	1004	1025	1002	1010	1007
Gas Pressure	mbar				0	0	0.00		0.01	0.01	-0.01	-0.05	<0.1	0.02	<0.01	0.17	-0.02	-0.07	-0.19	-0.06	<0.01	0.01	0.15	0.22	-0.06
Gas Flow Rate	l/hr				<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	-0.2	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment		No gas tap	No gas tap																Soft sediment at base of borehole.						

Cover height - Flush Cover
Ground Level - 10.706





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N99A																									
Type Of Sample Required	None	15/01/13	05/02/13	12/03/13	01/04/13	09/05/13	05/06/13	04/07/13	06/08/13	04/09/13	02/10/13	05/11/13	04/12/13	08/01/14	04/02/14	05/03/14	02/04/14	07/05/14	05/06/14	02/07/14	05/08/14	03/09/14	08/10/14	04/11/14	03/12/14	02/03/15
Determinand	Units																									
Water Level																										
Water level to top of casing	m	5.23	5.26	5.54	5.65	5.94	6.07	6.2	6.2	6.26	6.35	5.92	6.04	5.62	5.28	5.37	5.64	5.92	6.06	6.15	6.26	6.18	5.97	5.86	5.53	5.9
Borehole depth to top of casing	m	8.96	8.94	8.92	8.93	8.94	8.94	8.95	8.92	8.93	8.62	8.92	8.92	8.92	8.92	8.93	8.93	8.94	8.93	8.94	8.93	8.92	8.92	8.93	8.93	8.93
Top of casing relative to Ordnance Datum Level	m	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71
Water level relative to Ordnance Datum	m	5.48	5.45	5.17	5.06	4.77	4.64	4.51	4.51	4.45	4.36	4.79	4.67	5.09	5.43	5.34	5.07	4.79	4.65	4.56	4.45	4.53	4.74	4.85	5.18	4.81
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m	1.75	1.77	1.79	1.78	1.77	1.77	1.76	1.79	1.78	2.09	1.79	1.79	1.79	1.79	1.78	1.78	1.77	1.78	1.77	1.78	1.79	1.79	1.78	1.78	1.78
Gas Concentrations																										
Date monitored	-	15/01/13	05/02/13	12/03/13	01/04/13	09/05/13	05/06/13	04/07/13	06/08/13	04/09/13	02/10/13	05/11/13	04/12/13	08/01/14	04/02/14	05/03/14	02/04/14	07/05/14	05/06/14	02/07/14	05/08/14	03/09/14	08/10/14	04/11/14	03/12/14	02/03/15
Time of measurement	-	13:05	15:13	14:45	13:33	12:54	12:26	14:29	13:38	11:49	11:04	12:35	14:40	12:22	10:30	14:43	11:05	14:29	11:51	11:24	13:51	14:06	14:44	12:03	13:17	14:23
Methane	% vol	0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2
Carbon Dioxide	% vol	3.6	1.2	5.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	2	3.6	0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	0.5	2.8	0.5
Oxygen	% vol	14.1	19.3	15.3	20.4	20.4	20.7	19.9	19.7	20.6	21	18.4	16.6	20.8	21.3	20.9	20.7	20.3	20.6	20.3	20.2	20.2	20.4	20.3	16.6	20.2
Atmospheric Pressure	mbar	1016	982	1015	1020	1000	1024	1008	1012	1016	1013	989	1018	1002	992	1012	1010	996	1006	1014	1015	1023	991	994	1026	997
Gas Pressure	mbar	-0.03	-0.02	-0.03	0.15	-0.07	0.17	0.02	-0.18	<0.01	0.09	0.19	-0.09	-0.1	-0.07	-0.04	-0.14	-0.34	-0.2	0.23	-0.24	-0.22	-0.11	0.09	0.08	0.25
Gas Flow Rate	l/hr	<0.1	0.2	<0.1	<0.1	0.1	0.1	0.2	<0.1	<0.1	<0.1	0.1	0.2	<0.1	0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	℃																									
Comment																										

Cover height - Flush Cover
Ground Level - 10.706

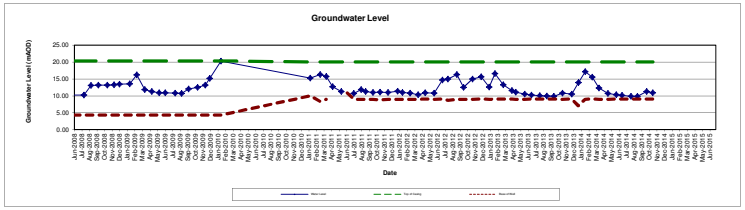
Ness Farm Landfill
Field Monitoring Sheet

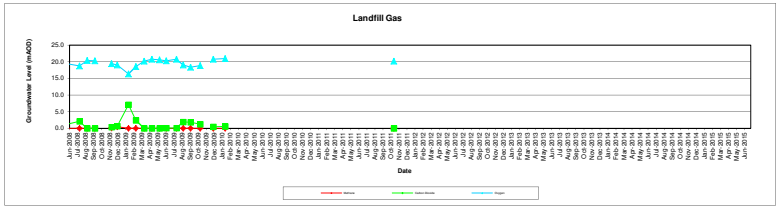
Sampling Location	N99A					
Type Of Sample Required	None	11/06/15	02/09/15	11/12/15	01/03/16	30/06/16
Determinand	Units					
Water Level						
Water level to top of casing	m	6.08	5.9	5.65	5.46	5.58
Borehole depth to top of casing	m	8.93	8.93	8.93	8.93	8.9
Top of casing relative to Ordnance Datum Level	m	10.71	10.71	10.71	10.71	10.71
Water level relative to Ordnance Datum	m	4.63	4.81	5.06	5.25	5.13
Calculated purge volume	litres					
Base of Well to Ordnance Datum	m	1.78	1.78	1.78	1.78	1.81
Gas Concentrations						
Date monitored	-	11/06/15	02/09/15	11/12/15	01/03/16	30/06/16
Time of measurement	-	14:08	11:30	13:52	12:51	12:17
Methane	% vol	0.2	0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	1.1	0.7	<0.1	<0.1
Oxygen	% vol	19.8	18.5	20.8	20.9	20.8
Atmospheric Pressure	mbar	1018	1016	1007	994	1001
Gas Pressure	mbar	-0.16	0.13	-0.05	-0.22	<0.01
Gas Flow Rate	l/hr	0.1	-0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations						
pH	pH units					
Electrical Conductivity	µS/cm					
Dissolved Oxygen	mg/l					
Temperature	ºC					
Comment						

Cover height - Flush Cover
Ground Level - 10.706

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N100																					(Feb Mon)			
Type Of Sample Required	None	18/06/08	29/07/08	27/08/08	25/09/08	31/10/08	27/11/08	19/12/08	30/01/09	27/02/09	31/03/09	29/04/09	28/05/09	22/06/09	31/07/09	26/08/09	23/09/09	29/10/09	30/11/09	18/12/09	01/02/10	26/01/11	07/03/11	31/03/11	26/04/11	30/05/11
Determinand	Units																								
Water Level																									
Water level to top of casing	m	10.02	10.03	7.18	7.14	7.07	7.04	6.84	6.74	4.07	8.41	9.01	9.42	9.37	9.48	9.59	8.22	7.81	7.13	5.12	0.00	4.78	3.7	4.30	7.30	8.70
Borehole depth to top of casing	m	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	10.06	11.7	11.07		
Top of casing relative to Ordnance Datum Level	m	20.30	20.30	20.30	20.30	20.30	20.30	20.30	20.30	20.30	20.30	20.30	20.30	20.30	20.30	20.30	20.30	20.30	20.30	20.30	20.30	20.03	20.03	20.03	20.03	20.03
Water level relative to Ordnance Datum	m	10.28	10.27	13.12	13.16	13.23	13.26	13.46	13.56	16.23	11.89	11.29	10.88	10.93	10.82	10.71	12.08	12.49	13.17	15.18	20.30	15.25	16.33	15.73	12.73	11.33
Calculated purge volume	litres	47.84	47.76	70.56	70.88	71.44	71.68	73.28	74.08	95.44	60.72	55.92	52.64	53.04	52.16	51.28	62.24	65.52		87.04	128.00					
Base of Well to Ordnance Datum	m	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	9.97	8.33	8.96		
Gas Concentrations																										
Date monitored	-	18/06/08	29/07/08	27/08/08	25/09/08	31/10/08	27/11/08	19/12/08	30/01/09	27/02/09	31/03/09	29/04/2009	28/05/2009	22/06/2009	31/07/2009	26/08/2009	23/09/2009	29/10/2009		18/12/2009	01/02/2010	26/01/2011	07/03/2011	31/03/2011	26/04/2011	30/05/2011
Time of measurement	-		0	11:22	06:00		07:12	07:40	02:09	11:47	14:07	14:40	13:41	12:33		13:19	12:48	12:31		12:08	05:16				10:54	15:49
Methane	% vol	0.0	0.0	0.0	0		0.1	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0					
Carbon Dioxide	% vol	1.3	2.1	0	0		0.4	0.7	7.1	2.4	0.0	0.0	0.0	0.1	0.1	1.9	1.8	1.2		0.5	0.6					
Oxygen	% vol	19.4	18.8	20.4	20.3		19.5	19.1	16.4	18.6	20.2	20.8	20.6	20.3	20.8	19.1	18.4	18.9		20.8	21.0					
Atmospheric Pressure	mbar	992	1000	1000	1025		1007	1005	1003	2018	1025	1008	1022	1024	1012	993	1013	1019		1018	1014					
Gas Pressure	mbar	<0.1	<0.1	<0.1	<0.1		0.05	-0.02	0.03	0.04	0.04	0.01	0.01	0	0.02	0.02	0.01	0.01		-0.01	-0.02					
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1		<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	0.1					
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	ºC																									
Comment						Equipment Failure																			Tap closed but pipe not sealed properly	Cap' tap present but not well sealed





Fairhurst Partners
Environmental Monitoring
June 2016

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N100**																									
Type Of Sample Required	None	23/06/11	20/07/11	18/08/11	06/09/11	05/10/11	02/11/11	05/12/11	12/01/12	01/02/12	02/03/12	03/04/12	02/05/12	07/06/12	11/07/12	02/08/12	06/09/12	03/10/12	08/11/12	13/12/12	15/01/13	06/02/13	12/03/13	16/04/13	01/05/13	06/06/13
Determinand	Units																									
Water Level																										
Water level to top of casing	m	DRY	9.35	8.20	8.70	9.06	8.90	9.05	8.66	9.00	9.19	9.66	9.14	9.22	5.29	5.03	3.75	7.50	5.03	4.37	7.41	3.44	6.79	8.43	8.92	9.5
Borehole depth to top of casing	m	9.20	11.06	11.04	11.10	11.06	11.20	11.05	11.03	11.06	11.02	11.05	11.01	11.06	11.01	11.30	11.06	11.05	11.04	11.01	11.04	11.01	10.98	11.01	11.04	11.02
Top of casing relative to Ordnance Datum Level	m	20.03	20.03	20.03	20.03	20.03	20.03	20.03	20.03	20.03	20.03	20.03	20.03	20.03	20.03	20.03	20.03	20.03	20.03	20.03	20.03	20.03	20.03	20.03	20.03	20.03
Water level relative to Ordnance Datum	m		10.68	11.83	11.33	10.97	11.13	10.98	11.37	11.03	10.84	10.37	10.89	10.81	14.74	15.00	16.28	12.53	15.00	15.66	12.62	16.59	13.24	11.60	11.11	10.53
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m	10.83	8.97	8.99	8.93	8.97	8.83	8.98	9.00	8.97	9.01	8.98	9.02	8.97	9.02	8.73	8.97	8.98	8.99	9.02	8.99	9.02	9.05	9.02	8.99	9.01
Gas Concentrations																										
Date monitored	-	23/06/2011	20/07/11		06/09/11		02/11/11													13/12/12			12/03/13	16/04/13		
Time of measurement	-	12:30	11:16		16:05		11:19													11:45			16:08	14:24		
Methane	% vol						<0.1																			
Carbon Dioxide	% vol						<0.1																			
Oxygen	% vol						20.2																			
Atmospheric Pressure	mbar						1001																			
Gas Pressure	mbar						<0.01																			
Gas Flow Rate	l/hr						<0.1																			
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	ºC																									
Comment																										

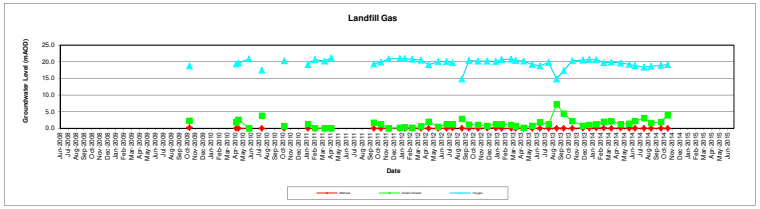
Ness Farm Landfill
Field Monitoring Sheet

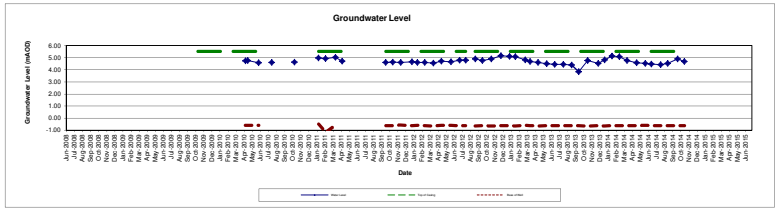
Sampling Location	**N100**																		
Type Of Sample Required	None	04/07/13	06/08/13	03/09/13	02/10/13	05/11/13	12/12/13	08/01/14	04/02/14	05/03/14	01/04/14	06/05/14	09/06/14	02/07/14	07/08/14	02/09/14	09/10/14	03/11/14	
Determinand	Units																		
Water Level																			
Water level to top of casing	m	9.74	9.99	10.1	10.18	9.24	9.47	6.1	2.84	4.46	7.69	9.28	9.67	9.86	10.13	10.15	8.71	9.11	
Borehole depth to top of casing	m	11	11	11.01	11.01	11.02	10.99	12.99	11.06	11	11.02	11.02	11	11	10.97	10.95	10.99	11	
Top of casing relative to Ordnance Datum Level	m	20.03	20.03	20.03	20.03	20.03	20.03	20.03	20.03	20.03	20.03	20.03	20.03	20.03	20.03	20.03	20.03	20.03	
Water level relative to Ordnance Datum	m	10.29	10.04	9.93	9.85	10.79	10.56	13.93	17.19	15.57	12.34	10.75	10.36	10.17	9.90	9.88	11.32	10.92	
Calculated purge volume	litres																		
Base of Well to Ordnance Datum	m	9.03	9.03	9.02	9.02	9.01	9.04	7.04	8.97	9.03	9.01	9.01	9.03	9.03	9.06	9.08	9.04	9.03	
Gas Concentrations																			
Date monitored	-																		
Time of measurement	-																		
Methane	% vol																		
Carbon Dioxide	% vol																		
Oxygen	% vol																		
Atmospheric Pressure	mbar																		
Gas Pressure	mbar																		
Gas Flow Rate	l/hr																		
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	ºC																		
Comment																			

No longer monitored (14th November 2014)

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N101								(Sept mon)			(Dec Mon)		(Feb Mon)											
Type Of Sample Required	None	29/10/09	30/11/09	26/04/10	05/05/10	15/06/10	02/08/10	03/08.10	19/10/10	27/10/2010	15/11/10	12/01/11	26/01/11	22/02/11	31/03/11	25/04/11	31/05/11	23/06/11	20/07/11	18/08/11	06/09/11	06/10/11	02/11/11	01/12/11	13/01/12
Determinand	Units																								
Water Level																									
Water level to top of casing	m	0.54	0.32	0.79	0.76	0.94		0.91		0.89			0.55	0.60	0.50	0.82						0.93	0.90	0.92	0.88
Borehole depth to top of casing	m			6.13	6.12	6.12		6.14		6.08			6.00	6.7	6.1							6.16	6.15	6.09	6.14
Top of casing relative to Ordnance Datum Level	m	5.53	5.53	5.53	5.53	5.53		5.53		5.53			5.53	5.53	5.53	5.53						5.53	5.53	5.53	5.53
Water level relative to Ordnance Datum	m			4.74	4.77	4.59		4.62		4.64			4.98	4.93	5.03	4.71						4.60	4.63	4.61	4.65
Calculated purge volume	litres																								
Base of Well to Ordnance Datum	m			-0.61	-0.60	-0.60		-0.61		-0.56			-0.48	-1.18	-0.57							-0.63	-0.62	-0.56	-0.61
Gas Concentrations																									
Date monitored	-	29/10/09		26/04/10	05/05/10	15/06/10		03.08.10		27/10/2010			26/01/2011	07/03/2011	31/03/11	25/04/11						06/10/11	02/11/11	01/12/12	12/01/12
Time of measurement	-	15:00		16:45	15:34	16:39		11:29		11:15			10:00			14:40						12:32	16:53	11:35	12:37
Methane	% vol	0.2		<0.1	<0.1	<0.1		<0.1		<0.1			<0.1	<0.1	<0.1	<0.1						<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	2.3		1.8	2.6	<0.1		3.8		0.7			1.3	0.1	<0.1	<0.1						1.7	1.2	<0.1	0.2
Oxygen	% vol	18.8		19.4	19.6	20.9		17.5		20.3			19.2	20.7	20.20	21.20						19.4	19.9	20.9	21
Atmospheric Pressure	mbar	1022		1016	1023	1028		1007		1002			1021	1025	983.00	1030.00						994	1001	1000	1036
Gas Pressure	mbar	-0.87		0.02	0.02	+/-0.01		+/-0.01		+/-0.01			+/-0.01	0.8	0.02	-0.02						0.03	0.02	0.18	0.12
Gas Flow Rate	l/hr	0.1		+/-0.1	+/-0.1	+/-0.1		+/-0.1		+/-0.1			+/-0.1	-0.3	0.0	<0.1						<0.1	<0.1		<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment			Gas analysis lost				Location Under Water. Unable To Sample		Could not locate		Monitoring visit not undertaken due to adverse weather	Could not locate				Tap found open. Cover cracked	Could not locate	Could not locate	Could not locate	Could not locate	Buried under grass	Plastic casing cracked because metal cover pressing down on gas tap	Gas tap requires replacing	Casing cracked	gas tap damaged





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N101																									
Type Of Sample Required	None	02/02/12	01/03/12	03/04/12	02/05/12	08/06/12	10/07/12	02/08/12	02/08/12	07/09/12	04/10/12	07/11/12	13/12/12	14/01/13	05/02/13	14/03/13	01/04/13	01/05/13	03/06/13	03/07/13	05/08/13	05/09/13	01/10/13	04/11/13	13/12/13	07/01/14
Determinand	Units																									
Water Level																										
Water level to top of casing	m	0.91	0.93	0.97	0.81	0.87	0.74	0.74		0.63	0.75	0.64	0.37	0.41	0.44	0.70	0.83	0.93	1.04	1.08	1.07	1.14	1.7	0.76	0.99	0.7
Borehole depth to top of casing	m	6.13	6.15	6.17	6.12	6.12	6.15	6.16		6.18	6.14	6.17	6.16	6.15	6.17	6.12	6.14	6.17	6.16	6.14	6.14	6.14	6.16	6.18	6.15	6.18
Top of casing relative to Ordnance Datum Level	m	5.53	5.53	5.53	5.53	5.53	5.53	5.53		5.53	5.53	5.53	5.53	5.53	5.53	5.53	5.53	5.53	5.53	5.53	5.53	5.53	5.53	5.53	5.53	5.53
Water level relative to Ordnance Datum	m	4.62	4.60	4.56	4.72	4.66	4.79	4.79		4.90	4.78	4.89	5.16	5.12	5.09	4.83	4.70	4.60	4.49	4.45	4.46	4.39	3.83	4.77	4.54	4.83
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m	-0.60	-0.62	-0.64	-0.59	-0.59	-0.62	-0.63		-0.65	-0.61	-0.64	-0.63	-0.62	-0.64	-0.59	-0.61	-0.64	-0.63	-0.61	-0.61	-0.61	-0.63	-0.65	-0.62	-0.65
Gas Concentrations																										
Date monitored	-	02/02/12	01/03/12	04/03/12	02/05/12	08/06/12	10/07/12	02/08/12		07/09/12	04/10/12	07/11/12	13/12/12	14/01/13	05/02/13	14/03/13	01/04/13	01/05/13	03/06/13	03/07/13	05/08/13	05/09/13	01/10/13	04/11/13	13/12/13	07/01/14
Time of measurement	-	13:54	09:55	11:20	16:35	15:25	14:54	09:39		15:54	10:24	14:47	14:05	10:19	10:15	14:06	09:05	10:15	10:19	10:29	10:22	14:56	14:02	10:13	10:21	10:16
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1		<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1
Carbon Dioxide	% vol	0.4	0.2	0.6	2.0	0.5	1.2	1.2		2.9	1.1	1.0	0.8	1.2	1.2	1	0.6	0.2	0.8	1.8	1.2	7.2	4.4	2.2	0.8	1
Oxygen	% vol	21	20.8	20.5	19.2	20.0	20.1	19.7		14.8	20.4	20.2	20.2	20.1	20.7	20.8	20.4	20.2	19.3	18.8	19.8	14.8	17.3	20.3	20.5	20.7
Atmospheric Pressure	mbar	1040	1019	1026	1028	996	1011	1004		1017	1003	1009	1019	1010	981	1008	1020	1018	1032	1002	1010	1012	1015	992	1008	985
Gas Pressure	mbar	-0.06	<0.01	-0.08	-0.19	-0.09	-0.05	-0.05		-0.02	0.25	0.21	-0.26	-0.10	0.02	0.1	0.1	-0.02	-0.04	0.24	0.04	0.43	0.08	0.27	-0.17	0.03
Gas Flow Rate	l/hr	<0.1	0.3	<0.1	<0.1	-0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.1	0.1	<0.1	0.1	<0.1
Insitu Liquid Determinations																										
pH	pH units								7.4																	
Electrical Conductivity	µS/cm								1180																	
Dissolved Oxygen	mg/l								7.3																	
Temperature	ºC								13.9																	
Comment		gas tap damaged	Gas tap pushed through casing	Gas tap pushed through cover	Gas tap pushed through the casing	Cover cracked. Gas tap requires replacing.																				

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N101											
Type Of Sample Required	None	03/02/14	03/03/14	01/04/14	07/05/14	09/06/14	01/07/14	05/08/14	01/09/14	08/10/14	03/11/14	
Determinand	Units											
Water Level												
Water level to top of casing	m	0.4	0.44	0.76	0.94	1	1.06	1.1	1.01	0.62	0.85	
Borehole depth to top of casing	m	6.15	6.14	6.16	6.15	6.12	6.15	6.16	6.14	6.14	6.14	
Top of casing relative to Ordnance Datum Level	m	5.53	5.53	5.53	5.53	5.53	5.53	5.53	5.53	5.53	5.53	
Water level relative to Ordnance Datum	m	5.13	5.09	4.77	4.59	4.53	4.47	4.43	4.52	4.91	4.68	
Calculated purge volume	litres											
Base of Well to Ordnance Datum	m	-0.62	-0.61	-0.63	-0.62	-0.59	-0.62	-0.63	-0.61	-0.61	-0.61	
Gas Concentrations												
Date monitored	-	03/02/14	03/03/14	01/04/14	07/05/14	09/06/14	01/07/14	05/08/14	01/09/14	08/10/14	03/11/14	
Time of measurement	-	10:15	10:33	11:07	11:58	09:47	12:14	09:47	10:57	11:43	10:57	
Methane	% vol	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Carbon Dioxide	% vol	1.2	2	2.1	1.2	1.4	2.2	3.1	1.6	1.9	3.9	
Oxygen	% vol	20.6	19.7	19.9	19.6	19.3	18.9	18.4	18.7	19	19.2	
Atmospheric Pressure	mbar	1002	984	1013	998	1019	1023	1017	1016	993	985	
Gas Pressure	mbar	-0.09	-0.1	-0.05	<0.01	-0.15	0.33	-0.05	-0.17	-0.09	<0.01	
Gas Flow Rate	l/hr	0.1	<0.1	0.2	0.2	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	
Insitu Liquid Determinations												
pH	pH units											
Electrical Conductivity	µS/cm											
Dissolved Oxygen	mg/l											
Temperature	ºC											
Comment			Oil on top of leachate									

No longer monitored (14th November 2015)

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N102**		(Sept mon)																					
Type Of Sample Required	None	30/11/09	07/10/10	20/07/11	18/08/11	09/09/11	05/10/11	03/11/11	06/12/11	01/03/12	03/04/12	03/05/12	08/06/12	10/07/12	03/09/12	03/10/12	07/11/12	04/12/12	14/01/13	05/02/13	11/03/13	01/04/13	01/05/13	04/06/13
Determinand	Units																							
Water Level																								
Water level to top of casing	m																							
Borehole depth to top of casing	m																							
Top of casing relative to Ordnance Datum Level	m																							
Water level relative to Ordnance Datum	m																							
Calculated purge volume	litres																							
Base of Well to Ordnance Datum	m																							
Gas Concentrations																								
Date monitored	-																							
Time of measurement	-																							
Methane	% vol																							
Carbon Dioxide	% vol																							
Oxygen	% vol																							
Atmospheric Pressure	mbar																							
Gas Pressure	mbar																							
Gas Flow Rate	l/hr																							
Insitu Liquid Determinations																								
pH	pH units	7.5		7.6	7.5	7.6	7.4	7.7	7.7	7.6	7.8	7.2	7.2	7.2	7.2	7.5	7.4	7.4	7.2	7.3		7.7	8.0	8.0
Electrical Conductivity	µS/cm	3410		1200	1030	2830	2020	1830	1760	2350	2240	1230	2000	960	690	1830	2110	1240	1590	1970		2150	2500	2080
Dissolved Oxygen	mg/l			6.3	8.1	5.4	7.0	5.9	5.3	8.0	4.9	4.5	6.5	7.1	7.1	7.8	9.0	9.1	8.4	9.9		9.8	10.3	8.4
Temperature	℃	7	12.8	13.5	14.0	12.5	13.0	12.0	8.1	8.0	7.8	8.9	9.5	12.0	15.7	11.8	10.0	7.2	6.9	7.3	6.8	6.8	8.3	11.1
Comment																								

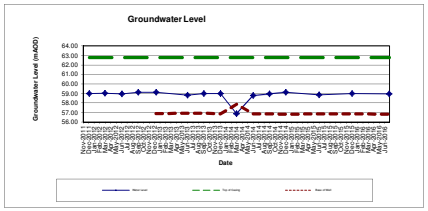
Ness Farm Landfill
Field Monitoring Sheet

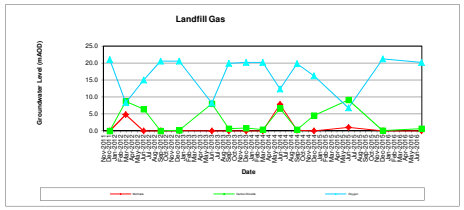
Sampling Location	**N102**																			
Type Of Sample Required	None	03/07/13	05/08/13	02/09/13	01/10/13	04/11/13	03/12/13	07/01/14	03/02/14	05/03/14	01/04/14	06/05/14	02/06/14	01/07/14	05/08/14	02/09/14	08/10/14	03/11/14	02/06/15	27/06/16
Determinand	Units																			
Water Level																				
Water level to top of casing	m																			
Borehole depth to top of casing	m																			
Top of casing relative to Ordnance Datum Level	m																			
Water level relative to Ordnance Datum	m																			
Calculated purge volume	litres																			
Base of Well to Ordnance Datum	m																			
Gas Concentrations																				
Date monitored	-																			27/06/16
Time of measurement	-																			14:08
Methane	% vol																			
Carbon Dioxide	% vol																			
Oxygen	% vol																			
Atmospheric Pressure	mbar																			
Gas Pressure	mbar																			
Gas Flow Rate	l/hr																			
Insitu Liquid Determinations																				
pH	pH units	7.4	6.8	7.1	7.4	7.5	7.4	7.2	7.5	7.5	7.5	7	7	7.4	7.4	7.4	6.8	6.7	7.6	7
Electrical Conductivity	µS/cm	2370	1280	1490	1340	920	1460	1020	955	1450	2480	1970	1710	1970	1410	675	495	910	1810	915
Dissolved Oxygen	mg/l	7.1	5.3	5.3	6.4	10.5	8.8	10.8	10.8	11.4	9.22	6.6	4.6	6.8	7.7	10	8.8	8.2	8.33	9.04
Temperature	ºC	11.2	13.6	14.3	12.9	11.6	9.5	8.3	7.9	7.7	8.3	9.9	12.3	12.5	13.6	14.0	12.6	11.3	10.3	12.1
Comment																				

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N103															
Type Of Sample Required	None	07/12/11	02/03/12	05/06/12	04/09/12	11/12/12	04/06/13	03/09/13	03/12/13	03/03/14	03/06/14	01/09/14	01/12/14	04/06/15	04/12/15	28/06/16
Determinand	Units															
Water Level																
Water level to top of casing	m	3.81	3.78	3.85	3.67	3.66	3.96	3.81	3.81	5.92	3.99	3.82	3.66	3.93	3.79	3.82
Borehole depth to top of casing	m	5.91	5.95	5.94	5.85	5.92	5.89	5.86	5.95	4.92	5.93	5.95	5.96	5.95	5.93	5.96
Top of casing relative to Ordnance Datum Level	m	62.79	62.79	62.79	62.79	62.79	62.79	62.79	62.79	62.79	62.79	62.79	62.79	62.79	62.79	62.79
Water level relative to Ordnance Datum	m	58.98	59.01	58.94	59.12	59.13	58.83	58.98	58.98	56.87	58.80	58.97	59.13	58.86	59.00	58.97
Calculated purge volume	litres															
Base of Well to Ordnance Datum	m					56.87	56.90	56.93	56.84	57.87	56.86	56.84	56.83	56.84	56.86	56.83
Gas Concentrations																
Date monitored	-	07/12/12	02/03/12	05/06/12	04/09/12	11/12/12	04/06/13	03/09/13	03/12/13	03/03/14	03/06/14	01/09/14	01/12/14	04/06/15	04/12/15	28/06/16
Time of measurement	-	15:19	10:12	12:14	12:59	12:53	15:53	14:24	11:58	12:14	11:41	11:16	12:11	13:54	13:39	10:45
Methane	% vol	<0.1	4.8	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	7.8	0.2	<0.1	1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	8.7	6.4	<0.1	0.2	8	0.6	0.8	0.4	6.6	0.4	4.5	9.2	0.1	0.6
Oxygen	% vol	21.1	8.3	15.0	20.6	20.6	8.2	19.9	20.2	20.2	12.4	19.8	16.2	6.8	21.3	20.2
Atmospheric Pressure	mbar	994	1020	1007	1010	1025	1025	1014	1014	976	1003	1012	1004	1018	1002	1005
Gas Pressure	mbar	<0.1	0.14	-0.03	<0.01	-0.03	0.05	-0.07	0.3	-0.22	-0.22	-0.07	-0.12	<0.01	0.03	<0.01
Gas Flow Rate	l/hr	<0.1	<0.1	0.1	<0.1	0.30	0.2	<0.1	-0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																
pH	pH units												5.6	5.7	5.6	5.1
Electrical Conductivity	µS/cm												320	355	370	345
Dissolved Oxygen	mg/l												8.5	4.3	5.8	4.4
Temperature	ºC			13.6		5.7	14.1	11.7	9.9	8.5	11.7	12.8	9.9	8.9	9.5	10.5
Comment			Padlocked after gas/levels done - tritium sample not taken													

Cover Level - 62.79m AOD
Ground Level - 61.82m AOD

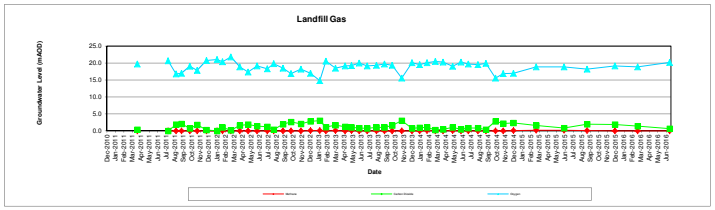


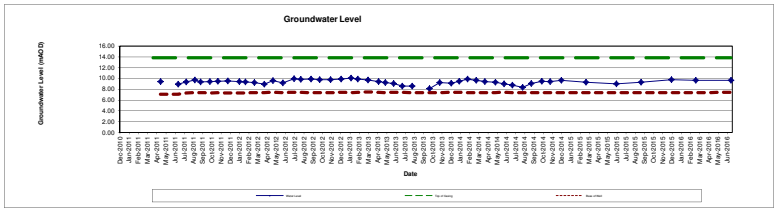


Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N107																								
Type Of Sample Required	None	01/04/11	26/04/11	31/05/11	23/06/11	20/07/11	18/08/11	06/09/11	06/10/11	02/11/11	05/12/11	12/01/12	01/02/12	02/03/12	03/04/12	02/05/12	04/06/12	11/07/12	02/08/12	05/09/12	03/10/12	08/11/12	13/12/12	15/01/13	06/02/13
Determinand	Units																								
Water Level																									
Water level to top of casing	m		4.40	4.77	4.90	4.50	4.14	4.48	4.39	4.37	4.32	4.40	4.46	4.60	4.89	4.22	4.65	3.91	3.99	3.93	4.08	4.06	3.92	3.74	3.94
Borehole depth to top of casing	m	6.74	6.74		6.74	6.52	6.44	6.46	6.50	6.48	6.52	6.50	6.53	6.47	6.45	6.38	6.44	6.40	6.42	6.45	6.44	6.47	6.42	6.44	6.42
Top of casing relative to Ordnance Datum Level	m	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85
Water level relative to Ordnance Datum	m		9.45		8.95	9.35	9.71	9.37	9.46	9.48	9.53	9.45	9.39	9.25	8.96	9.63	9.20	9.94	9.86	9.92	9.77	9.79	9.93	10.11	9.91
Calculated purge volume	litres																								
Base of Well to Ordnance Datum	m		7.11	7.11	7.11	7.33	7.41	7.39	7.35	7.37	7.33	7.35	7.32	7.38	7.40	7.47	7.41	7.45	7.43	7.40	7.41	7.38	7.43	7.41	7.43
Gas Concentrations																									
Date monitored	-	01/04/11	26/04/11	31/05/11	23/06/11	20/07/11	18/08/11	06/09/11	06/10/11	02/11/11	05/12/12	12/01/12	01/02/12	02/03/12	03/04/12	02/05/12	04/06/12	11/07/12	02/08/12	05/09/12	03/10/12	08/11/12	13/12/12	15/01/13	06/02/13
Time of measurement	-	14:30	10:43	15:42	12:08	11:02	12:13	15:56	14:28	10:58	09:27	10:54	10:28	10:55	10:23	12:06	16:06	12:12	15:13	13:19	15:34	11:44	12:17	13:20	14:34
Methane	% vol	<0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1
Carbon Dioxide	% vol	0.4				<0.1	1.9	2.1	0.7	1.8	0.3	<0.1	1.0	0.2	1.6	1.9	1.4	1.2	0.4	2.0	2.6	2.1	2.8	3.0	1.1
Oxygen	% vol	19.7				20.7	16.8	17.0	19.1	17.9	20.8	21.1	20.4	21.8	18.9	17.4	19.2	18.3	19.8	18.5	16.9	18.2	17.0	14.8	20.6
Atmospheric Pressure	mbar	1001				1009	1015	982	992	1002	995	1019	1040	1025	1011	1029	1016	1008	1004	1025	993	1009	1007	1016	1014
Gas Pressure	mbar	-				-0.23	-0.02	0.01	-0.02	-0.06	<0.1	0.13	0.04	-0.12	-0.03	-0.13	-0.14	-0.02	-0.30	-0.06	0.12	0.25	-0.05	<0.01	-0.05
Gas Flow Rate	l/hr	-				NR	NR	NR	<0.1	Comment	<0.1	<0.1	-0.2	n/r	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment		No Tap	No cap or tap on monitoring point	No cap or bung present	No cap or bung present	No cap or bung present	No cap or bung present	No cap/bung/tap	No bung or gas tap present	No bung or gas tap present	No cap/bung/tap	gas tap requires replacing	gas tap requires replacing	No bung or gas tap present											

Cover height - 0.74
Ground Level - 13.109





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N107																									
Type Of Sample Required	None	12/03/13	16/04/13	09/05/13	05/06/13	04/07/13	06/08/13	04/09/13	02/10/13	05/11/13	12/12/13	08/01/14	04/02/14	05/03/14	02/04/14	07/05/14	05/06/14	02/07/14	05/08/14	03/09/14	08/10/14	04/11/14	11/12/14	03/03/15	11/06/15	02/09/15
Determinand	Units																									
Water Level																										
Water level to top of casing	m	4.14	4.40	4.6	4.77	5.27	5.27	Dry	5.72	4.59	4.73	4.35	3.95	4.16	4.42	4.54	4.85	5.09	5.48	4.79	4.36	4.42	4.2	4.52	4.81	4.55
Borehole depth to top of casing	m	6.36	6.43	6.45	6.41	6.43	6.45	6.45	6.48	6.44	6.43	6.43	6.44	6.45	6.45	6.45	6.42	6.46	6.46	6.45	6.47	6.47	6.47	6.46	6.44	6.45
Top of casing relative to Ordnance Datum Level	m	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85	13.85
Water level relative to Ordnance Datum	m	9.71	9.45	9.25	9.08	8.58	8.58		8.13	9.26	9.12	9.50	9.90	9.69	9.43	9.31	9.00	8.76	8.37	9.06	9.49	9.43	9.65	9.33	9.04	9.30
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m	7.49	7.42	7.40	7.44	7.42	7.40	7.40	7.37	7.41	7.42	7.42	7.41	7.40	7.40	7.40	7.43	7.39	7.39	7.40	7.38	7.38	7.38	7.39	7.41	7.40
Gas Concentrations																										
Date monitored	-	12/03/13	16/04/13	09/05/13	05/06/13	04/07/13	06/08/13	04/09/13	02/10/13	05/11/13	12/12/13	08/01/14	04/02/14	05/03/14	02/04/14	07/05/14	05/06/14	02/07/14	05/08/14	03/09/14	08/10/14	04/11/14	11/12/14	03/03/15	11/06/15	02/09/15
Time of measurement	-	15:08	12:47	15:07	11:29	13:27	12:43	12:50	10:31	12:54	12:28	12:38	10:10	15:06	10:45	14:47	11:08	10:55	14:07	13:27	14:57	11:21	11:08	13:37	13:44	11:40
Methane	% vol	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	0.2	0.1
Carbon Dioxide	% vol	1.7	1.2	1	0.8	0.7	1	1	1.6	3	0.7	0.9	1	0.3	0.5	1	0.5	0.8	0.8	0.4	2.8	2.2	2.3	1.6	0.8	2
Oxygen	% vol	18.5	19.2	19.3	20	19.2	19.4	19.7	19.4	15.6	20.1	19.6	20.1	20.5	20.3	19.1	20.3	19.7	19.6	19.9	15.6	16.9	17	18.9	18.9	18.2
Atmospheric Pressure	mbar	1014	993	999	1024	1008	1011	1015	1013	988	1013	1003	991	1013	1010	996	1005	1013	1015	1023	991	993	988	1002	1018	1016
Gas Pressure	mbar	-0.04	-1.26	<0.01	-0.09	0.15	-0.22	-0.02	0.21	0.17	-0.14	-0.11	-0.12	-0.03	0.03	-0.34	-0.12	0.3	-0.27	-0.18	-0.13	0.15	0.16	0.11	-0.1	0.1
Gas Flow Rate	l/hr	<0.1	<0.1	0.1	0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	-0.1
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	ºC																									
Comment																										

Cover height - 0.74
Ground Level - 13.109

Fairhurst Partners
Environmental Monitoring
June 2016

Ness Farm Landfill
Field Monitoring Sheet

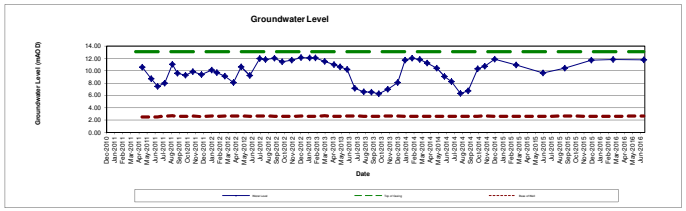
Sampling Location	N107			
Type Of Sample Required	None	11/12/15	01/03/16	24/06/16
Determinand	Units			
Water Level				
Water level to top of casing	m	4.07	4.2	4.2
Borehole depth to top of casing	m	6.45	6.45	6.43
Top of casing relative to Ordnance Datum Level	m	13.85	13.85	13.85
Water level relative to Ordnance Datum	m	9.78	9.65	9.65
Calculated purge volume	litres			
Base of Well to Ordnance Datum	m	7.40	7.40	7.42
Gas Concentrations				
Date monitored	-	11/12/15	01/03/16	24/06/16
Time of measurement	-	14:21	13:53	14:33
Methane	% vol	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	1.9	1.4	0.6
Oxygen	% vol	19.2	18.9	20.2
Atmospheric Pressure	mbar	1007	994	1013
Gas Pressure	mbar	<0.01	-0.29	0.09
Gas Flow Rate	l/hr	<0.1	<0.1	0.3
Insitu Liquid Determinations				
pH	pH units			
Electrical Conductivity	µS/cm			
Dissolved Oxygen	mg/l			
Temperature	°C			
Comment				

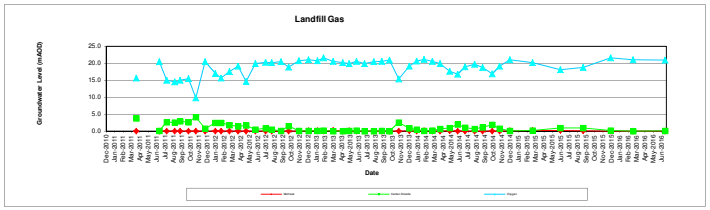
Cover height - 0.74
Ground Level - 13.109

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N108																								
Type Of Sample Required	None	01/04/11	26/04/11	30/05/11	23/06/11	20/07/11	18/08/11	06/09/11	06/10/11	02/11/11	05/12/11	12/01/12	01/02/12	02/03/12	03/04/12	02/05/12	04/06/12	11/07/12	02/08/12	05/09/12	03/10/12	08/11/12	13/12/12	15/01/13	06/02/13
Determinand	Units																								
Water Level																									
Water level to top of casing	m		2.50	4.36	5.64	5.10	2.06	3.52	3.79	3.22	3.70	2.99	3.40	3.97	5.01	2.48	3.88	1.10	1.26	1.06	1.62	1.34	0.94	1.00	1.00
Borehole depth to top of casing	m	10.60	10.60	10.60	10.60	10.43	10.40	10.47	10.49	10.44	10.52	10.46	10.50	10.46	10.46	10.46	10.48	10.46	10.44	10.50	10.49	10.51	10.46	10.47	10.50
Top of casing relative to Ordnance Datum Level	m	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10
Water level relative to Ordnance Datum	m		10.60	8.74	7.46	8.00	11.04	9.58	9.31	9.88	9.40	10.11	9.70	9.13	8.09	10.62	9.22	12.00	11.84	12.04	11.48	11.76	12.16	12.10	12.10
Calculated purge volume	litres																								
Base of Well to Ordnance Datum	m		2.50	2.50	2.50	2.67	2.70	2.63	2.61	2.66	2.58	2.64	2.60	2.64	2.64	2.64	2.62	2.64	2.66	2.60	2.61	2.59	2.64	2.63	2.60
Gas Concentrations																									
Date monitored	-	01/04/11	26/04/11	30/05/11	23/06/11	20/07/11	18/08/11	06/09/11	06/10/11	02/11/11	05/12/12	12/01/12	01/02/12	02/03/12	03/04/12	02/05/12	04/06/12	11/07/12	02/08/12	05/09/12	03/10/12	08/11/12	13/12/12	15/01/13	06/02/13
Time of measurement	-	14:35	10:49	15:45	12:10	11:13	12:18	16:00	14:33	11:03	09:32	10:58	10:35	11:05	10:29	12:17	16:13	12:21	15:09	13:29	15:45	11:51	12:23	13:25	14:38
Methane	% vol	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1
Carbon Dioxide	% vol	3.8			0.1	2.6	2.5	2.9	2.6	4.1	0.7	2.4	2.4	1.8	1.4	1.7	0.5	0.8	0.5	0.1	1.5	0.1	0.1	0.1	0.2
Oxygen	% vol	15.7			20.5	15.0	14.5	15.0	15.5	9.8	20.5	17	15.7	17.6	19.2	14.6	19.9	20.3	20.2	20.5	18.9	20.8	21.1	20.8	21.6
Atmospheric Pressure	mbar	1001			1009	1009	1015	983	992	1002	995	1020	1041	1025	1011	1029	1016	1008	1004	1025	993	1009	1007	1015	1014
Gas Pressure	mbar				0.00	-0.18	-0.02	0.01	-0.04	-0.05	<0.1	0.13	0.03	-0.22	<0.01	-0.14	-0.08	-0.07	-0.30	-0.01	0.11	0.32	-0.07	-0.03	0.07
Gas Flow Rate	l/hr					NR	NR	NR	<0.1	Comment	<0.1	<0.1	0.1	n/r	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.2
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment		No Tap	No tap on monitoring point	Cap present but no bung or tap	No tap or bung present	No tap	No tap	No bung/tap	OK	No gas tap present	No bung/tap.	gas tap requires replacing	gas tap requires replacing	No gas tap	Gas tap requires replacing	Gas tap requires replacing	Gas tap requires replacing			Bung very thin - needs replacing					

Cover height - 0.60
Ground Level - TBC (assumed 12.5m AOD)





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N108																									
Type Of Sample Required	None	12/03/13	16/04/13	09/05/13	05/06/13	04/07/13	06/08/13	04/09/13	02/10/13	05/11/13	12/12/13	08/01/14	04/02/14	05/03/14	02/04/14	07/05/14	05/06/14	02/07/14	05/08/14	03/09/14	08/10/14	04/11/14	11/12/14	03/03/15	11/06/15	02/09/15
Determinand	Units																									
Water Level																										
Water level to top of casing	m	1.57	2.08	2.46	2.89	5.93	6.53	6.56	6.81	6.11	5.02	1.36	1.03	1.26	1.82	2.64	4	4.86	6.75	6.38	2.77	2.34	1.2	2.15	3.44	2.64
Borehole depth to top of casing	m	10.40	10.48	10.49	10.44	10.44	10.48	10.47	10.47	10.46	10.43	10.48	10.5	10.48	10.48	10.48	10.48	10.49	10.5	10.5	10.49	10.46	10.48	10.48	10.49	10.45
Top of casing relative to Ordnance Datum Level	m	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10
Water level relative to Ordnance Datum	m	11.53	11.02	10.64	10.21	7.17	6.57	6.54	6.29	6.99	8.08	11.74	12.07	11.84	11.28	10.46	9.10	8.24	6.35	6.72	10.33	10.76	11.90	10.95	9.66	10.46
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m	2.70	2.62	2.61	2.66	2.66	2.62	2.63	2.63	2.64	2.67	2.62	2.60	2.62	2.62	2.62	2.62	2.61	2.60	2.60	2.61	2.64	2.62	2.62	2.61	2.65
Gas Concentrations																										
Date monitored	-	12/03/13	16/04/13	09/05/13	05/06/13	04/07/13	06/08/13	04/09/13	02/10/13	05/11/13	12/12/13	08/01/14	04/02/14	05/03/14	02/04/14	07/05/14	05/06/14	02/07/14	05/08/14	03/09/14	08/10/14	04/11/14	11/12/14	03/03/15	11/06/15	02/09/15
Time of measurement	-	15:19	12:52	15:12	11:38	13:33	12:49	12:56	10:36	13:00	12:34	12:43	10:15	15:11	10:50	14:51	11:13	11:00	14:11	13:32	15:02	11:26	11:12	13:42	13:52	11:45
Methane	% vol	0.2	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	0.2	0.1
Carbon Dioxide	% vol	<0.1	<0.1	0.1	0.2	<0.1	<0.1	0.1	<0.1	2.5	0.8	0.5	0.1	0.2	0.6	0.9	2	1	0.6	1.1	1.9	0.7	0.1	0.2	0.9	0.9
Oxygen	% vol	20.6	20.2	19.9	20.6	19.9	20.5	20.6	21	15.4	19.2	20.7	21.2	20.6	19.9	17.7	16.8	19	19.7	18.8	16.9	19.2	21.1	20.2	18.1	18.8
Atmospheric Pressure	mbar	1014	993	999	1024	1008	1011	1015	1013	989	1013	1002	991	1013	1010	995	1006	1014	1015	1023	991	993	989	1002	1018	1016
Gas Pressure	mbar	-0.1	1.87	-0.12	0.02	0.21	-0.23	-0.03	0.13	0.17	-0.12	-0.14	-0.09	-0.05	0.17	-0.35	-0.14	0.31	-0.3	-0.14	-0.11	0.13	0.08	0.12	-0.1	0.11
Gas Flow Rate	l/hr	-0.1	0.1	0.1	0.1	0.2	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.9	-0.1	<0.1	0.1	<0.1	-0.1
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	ºC																									
Comment								Bung requires replacing.																		

Cover height - 0.60
Ground Level - TBC (assumed 12.5m AOD)

Ness Farm Landfill
Field Monitoring Sheet

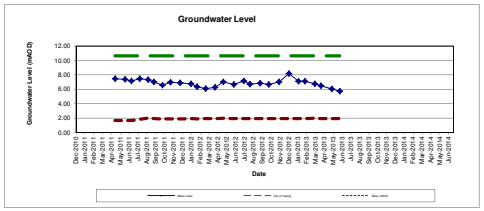
Sampling Location	N108			
Type Of Sample Required	None	11/12/15	01/03/16	24/06/16
Determinand	Units			
Water Level				
Water level to top of casing	m	1.37	1.25	1.32
Borehole depth to top of casing	m	10.49	10.48	10.42
Top of casing relative to Ordnance Datum Level	m	13.10	13.10	13.10
Water level relative to Ordnance Datum	m	11.73	11.85	11.78
Calculated purge volume	litres			
Base of Well to Ordnance Datum	m	2.61	2.62	2.68
Gas Concentrations				
Date monitored	-	11/12/15	01/03/16	24/06/16
Time of measurement	-	14:27	13:57	14:43
Methane	% vol	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.2	<0.1	0.1
Oxygen	% vol	21.6	21.1	21
Atmospheric Pressure	mbar	1007	993	1013
Gas Pressure	mbar	-0.04	-0.25	0.09
Gas Flow Rate	l/hr	<0.1	<0.1	0.3
Insitu Liquid Determinations				
pH	pH units			
Electrical Conductivity	µS/cm			
Dissolved Oxygen	mg/l			
Temperature	°C			
Comment				

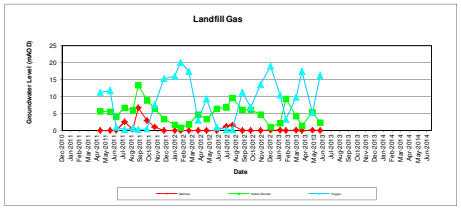
Cover height - 0.60
Ground Level - TBC (assumed 12.5m AOD)

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N109																									
Type Of Sample Required	None	26/04/11	30/05/11	21/06/11	20/07/11	18/08/11	06/09/11	06/10/11	02/11/11	05/12/11	12/01/12	01/02/12	02/03/12	03/04/12	02/05/12	07/06/12	11/07/12	01/08/12	05/09/12	04/10/12	08/11/12	13/12/12	15/01/13	05/02/13	12/03/13	01/04/13
Determinand	Units																									
Water Level																										
Water level to top of casing	m	3.19	3.30	3.50	3.22	3.33	3.64	4.08	3.70	3.79	3.92	4.33	4.60	4.42	3.66	4.02	3.50	3.94	3.84	4.01	3.66	2.49	3.54	3.55	3.92	4.17
Borehole depth to top of casing	m	9.00	9.00	9.00	8.83	8.65	8.77	8.79	8.78	8.79	8.73	8.78	8.74	8.76	8.72	8.76	8.75	8.74	8.75	8.75	8.73	8.73	8.75	8.75	8.72	8.74
Top of casing relative to Ordnance Datum Level	m	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68	10.68
Water level relative to Ordnance Datum	m	7.49	7.38	7.18	7.46	7.35	7.04	6.60	6.98	6.89	6.76	6.35	6.08	6.26	7.02	6.66	7.18	6.74	6.84	6.67	7.02	8.19	7.14	7.13	6.76	6.51
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m	1.68	1.68	1.68	1.85	2.03	1.91	1.89	1.90	1.89	1.95	1.90	1.94	1.92	1.96	1.92	1.93	1.94	1.93	1.93	1.95	1.95	1.93	1.93	1.96	1.94
Gas Concentrations																										
Date monitored	-	26/04/11	30/05/11	21/06/2011	20/07/11	18/08/11	06/09/11	06/10/11	02/11/11	05/12/12	12/01/12	01/02/12	02/03/12	03/04/12	02/05/12	07/06/12	11/07/12	01/08/12	05/09/12	04/10/12	08/11/12	13/12/12	15/01/13	05/02/13	12/03/13	01/04/13
Time of measurement	-	11:26	15:35	11:05	11:40	12:06	16:30	13:56	12:13	10:55	09:41	09:22	10:15	09:47	11:19	14:27	10:28	13:34	12:23	14:02	12:14	12:37	12:58	14:55	14:56	13:24
Methane	% vol	<0.1	<0.1	0.1	2.5	0.4	6.7	2.9	1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.2	1.6	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1
Carbon Dioxide	% vol	5.7	5.6	4.0	6.7	5.9	13.4	8.9	6.4	3.4	1.7	0.8	1.8	4.7	3.4	6.4	6.8	9.6	6.1	6.1	4.7	1.0	2.2	9.3	4.2	1.4
Oxygen	% vol	11.2	11.8	0.9	0.3	0.6	0.3	0.5	7.5	15.3	16.1	20.1	17.4	3.0	9.3	0.9	0.2	0.2	11.3	6.8	13.6	19.0	10.5	3.3	9.8	17.5
Atmospheric Pressure	mbar	1031	1006	1009	1010	1015	982	993	1002	997	1017	1040	1026	1012	1029	999	1008	1004	1025	1002	1010	1007	1016	981	1014	1021
Gas Pressure	mbar	0.02	0	0.00	-0.17	0.01	0.01	-0.01	-0.08	<0.1	0.06	<0.01	<0.01	<0.01	<0.01	-0.18	-0.05	<0.01	<0.01	0.08	0.19	-0.06	-0.04	0.22	-0.06	0.08
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	-0.2	0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	ºC																									
Comment																										

Cover height - Flush Cover
Ground Level - 10.684





Ness Farm Landfill
Field Monitoring Sheet

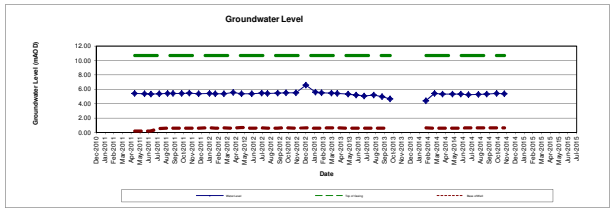
Sampling Location	N109											
Type Of Sample Required	None	09/05/13	05/06/13	04/07/13	05/08/13	04/09/13	01/10/13	05/11/13		04/02/14	02/04/14	Well Lost
Determinand	Units											
Water Level												
Water level to top of casing	m	4.63	4.94									
Borehole depth to top of casing	m	8.74	8.73									
Top of casing relative to Ordnance Datum Level	m	10.68	10.68									
Water level relative to Ordnance Datum	m	6.05	5.74									
Calculated purge volume	litres											
Base of Well to Ordnance Datum	m	1.94	1.95									
Gas Concentrations												
Date monitored	-	09/05/13	05/06/13								02/04/14	
Time of measurement	-	12:43	12:12									
Methane	% vol	0.1	<0.1									
Carbon Dioxide	% vol	5.4	2.3									
Oxygen	% vol	5.2	16.2									
Atmospheric Pressure	mbar	1001	1024									
Gas Pressure	mbar	<0.01	-0.1									
Gas Flow Rate	l/hr	0.1	0.2									
Insitu Liquid Determinations												
pH	pH units											
Electrical Conductivity	µS/cm											
Dissolved Oxygen	mg/l											
Temperature	℃											
Comment				Surface sample point could not be found - presumed covered by a	Could not be located	Not found.	Not found.	Could not be located.	Not found.	Not found.	Not located	

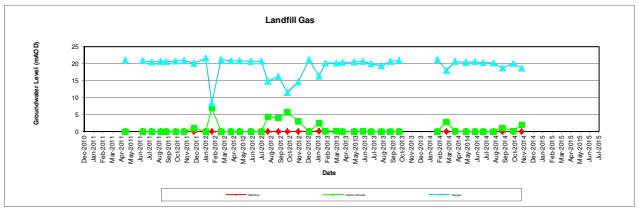
Cover height - Flush Cover
Ground Level - 10.684

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N110																									
Type Of Sample Required	None	26/04/11	30/05/11	21/06/11	20/07/11	18/08/11	06/09/11	06/10/11	02/11/11	05/12/11	12/01/12	01/02/12	02/03/12	03/04/12	02/05/12	07/06/12	11/07/12	01/08/12	05/09/12	04/10/12	08/11/12	13/12/12	15/01/13	05/02/13	12/03/13	01/04/13
Determinand	Units																									
Water Level																										
Water level to top of casing	m	5.27	5.32	5.37	5.32	5.29	5.26	5.29	5.23	5.30	5.28	5.30	5.33	5.12	5.30	5.31	5.25	5.27	5.24	5.20	5.17	4.13	5.08	5.17	5.22	5.27
Borehole depth to top of casing	m	10.50	10.50	10.50	10.15	10.13	10.12	10.10	10.09	10.10	10.08	10.12	10.07	10.10	10.03	10.10	10.08	10.10	10.10	10.07	10.09	10.08	10.09	10.10	10.07	10.05
Top of casing relative to Ordnance Datum Level	m	10.70	10.70	10.70	10.70	10.70	10.70	10.70	10.70	10.70	10.70	10.70	10.70	10.70	10.70	10.70	10.70	10.70	10.70	10.70	10.70	10.70	10.70	10.70	10.70	10.70
Water level relative to Ordnance Datum	m	5.43	5.38	5.33	5.38	5.41	5.44	5.41	5.47	5.40	5.42	5.40	5.37	5.58	5.40	5.39	5.45	5.43	5.46	5.50	5.53	6.57	5.62	5.53	5.48	5.43
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m	0.20	0.20	0.20	0.55	0.57	0.58	0.60	0.61	0.60	0.62	0.58	0.63	0.60	0.67	0.60	0.62	0.60	0.60	0.63	0.61	0.62	0.61	0.60	0.63	0.65
Gas Concentrations																										
Date monitored	-	26/04/11	30/05/11	21/06/11	20/07/11	18/08/11	06/09/11	06/10/11	02/11/11	05/12/12	12/01/12	01/02/12	02/03/12	03/04/12	02/05/12	07/06/12	11/07/12	01/08/12	05/09/12	04/10/12	08/11/12	13/12/12	15/01/13	05/02/13	12/03/13	01/04/13
Time of measurement	-	11:20	15:20	11:10	11:49	11:59	16:35	14:03	12:28	10:59	09:48	09:31	10:24	09:53	11:33	14:32	10:36	13:49	12:29	14:11	12:20	12:43	12:52	15:03	14:50	13:29
Methane	% vol	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<01	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1
Carbon Dioxide	% vol	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.9	<0.1	7	<0.1	<0.1	<0.1	<0.1	<0.1	4.3	4.0	5.7	3.0	<0.1	2.4	0.1	0.2	<0.1
Oxygen	% vol	21.1		20.9	20.5	20.7	20.6	20.8	21.0	20.1	21.6	8.3	21.3	20.9	20.9	20.7	20.8	14.8	16.2	11.5	14.6	21.2	16.3	20.2	20.2	20.4
Atmospheric Pressure	mbar	1031		1009	1010	1015	983	993	1002	997	1018	1040	1026	1011	1029	999	1008	1004	1025	1002	1010	1007	1016	982	1014	1021
Gas Pressure	mbar	-0.07		0.00	-0.19	-0.05	-0.02	-0.04	-0.06	<0.1	0.16	<0.01	0.08	-0.05	-0.12	-0.17	-0.05	0.01	0.01	0.14	0.30	-0.06	-0.02	0.63	-0.05	0.14
Gas Flow Rate	l/hr	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.2	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	0.2	<0.1	<0.1
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	ºC																									
Comment			Tap blocked. Presumably a small stone		Tap blocked																			Bung requires replacing - too small	Bung requires replacing - too small.	Bung needs replacing - too small

Cover height - Flush Cover
Ground Level - 10.696





Fairhurst Partners
Environmental Monitoring
June 2016

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N110**																				
Type Of Sample Required	None	09/05/13	06/06/13	04/07/13	06/08/13	04/09/13	02/10/13	05/11/13	03/12/13	01/01/14	04/02/14	05/03/14	02/04/14	07/05/14	05/06/14	02/07/14	05/08/14	03/09/14	08/10/14	04/11/14	
Determinand	Units																				
Water Level																					
Water level to top of casing	m	5.35	5.48	5.65	5.51	5.73	6.03				6.28	5.29	5.36	5.37	5.35	5.45	5.43	5.35	5.28	5.33	
Borehole depth to top of casing	m	10.1	10.09	10.1	10.1	10.09	10.07				10.06	10.09	10.09	10.09	10.09	10.07	10.08	10.07	10.08	10.08	
Top of casing relative to Ordnance Datum Level	m	10.70	10.70	10.70	10.70	10.70	10.70				10.70	10.70	10.70	10.70	10.70	10.70	10.70	10.70	10.70	10.70	
Water level relative to Ordnance Datum	m	5.35	5.22	5.05	5.19	4.97	4.67				4.42	5.41	5.34	5.33	5.35	5.25	5.27	5.35	5.42	5.37	
Calculated purge volume	litres																				
Base of Well to Ordnance Datum	m	0.60	0.61	0.60	0.60	0.61	0.63				0.64	0.61	0.61	0.61	0.61	0.63	0.62	0.63	0.62	0.62	
Gas Concentrations																					
Date monitored	-	09/05/13	06/06/13	04/07/13	06/08/13	04/09/13	02/10/13				04/02/14	05/03/14	02/04/14	07/05/14	05/06/14	02/07/14	05/08/14	03/09/14	08/10/14	04/11/14	
Time of measurement	-	12:49	12:19	14:23	13:33	11:43	10:59				10:25	14:48	10:59	14:33	11:46	11:19	13:47	14:02	14:40	11:59	
Methane	% vol	0.1	<0.1	<0.1	<0.1	<0.1	<0.1				0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Carbon Dioxide	% vol	<0.1	0.1	<0.1	<0.1	<0.1	<0.1				<0.1	2.8	0.1	<0.1	<0.1	<0.1	<0.1	1	0.2	2	
Oxygen	% vol	20.5	20.7	20	19.4	20.7	21				21.3	18	20.7	20.4	20.6	20.3	20.2	18.8	20.1	18.7	
Atmospheric Pressure	mbar	1000	1024	1008	1012	1016	1013				992	1013	1010	996	1006	1014	1015	1023	991	994	
Gas Pressure	mbar	-0.05	0.03	0.15	-0.25	<0.01	0.06				-0.08	-0.03	0.17	<0.01	-0.19	0.23	-0.25	-0.23	-0.08	0.08	
Gas Flow Rate	l/hr	0.1	0.1	0.1	<0.1	<0.1	-0.1				0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	
Insitu Liquid Determinations																					
pH	pH units																				
Electrical Conductivity	µS/cm																				
Dissolved Oxygen	mg/l																				
Temperature	℃																				
Comment		Bung needs replacing - too small	Bung and tap require replacing- too small	bung and tap require replacing	Bung and tap requires replacing	Bung and tap require replacing.	Bung and tap requires replacing	Bung and tap replaced but concrete makes it impossible to access	Concrete makes it impossible to access the gas tap and bung removal	Concrete makes it impossible to access the gas tap and bung removal											

Well no longer monitored (14th November 2014)

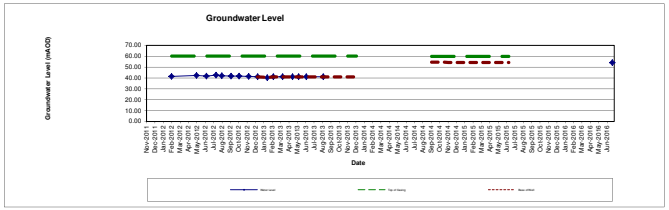
Cover height - Flush Cover
Ground Level - 10.696

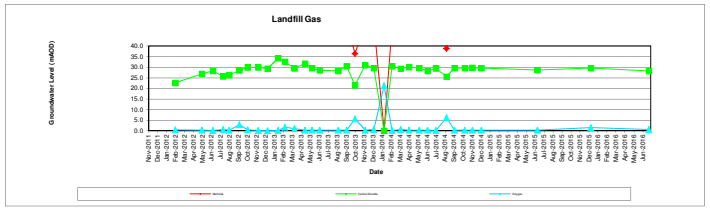
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N111																									
Type Of Sample Required	None	02/02/12	02/05/12	07/06/12	12/07/12	02/08/12	05/09/12	04/10/12	08/11/12	10/12/12	15/01/13	06/02/13	11/03/13	16/04/13	09/05/13	05/06/13	06/08/13	04/09/13	02/10/13	05/11/13	04/12/13	08/01/14	04/02/14	05/03/14	02/04/14	07/05/14
Determinand	Units																									
Water Level																										
Water level to top of casing	m	18.75	17.70	18.30	17.49	18.12	18.32	18.40	18.53	18.84	19.70	18.97	18.96	18.93	18.95	19.03	19.01	Dry	Dry	Dry	Dry			Dry		
Borehole depth to top of casing	m	21.86	20.13	19.30	19.25	19.20	19.16	19.13	19.12	19.10	19.70	19.06	19.06	19.06	19.03	19.03	19.01	19.02	19.03	19	18.97			5.54		
Top of casing relative to Ordnance Datum Level	m	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13			59.95		
Water level relative to Ordnance Datum	m	41.38	42.43	41.83	42.64	42.01	41.81	41.73	41.60	41.29	40.43	41.16	41.17	41.20	41.18	41.10	41.12									
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m									41.03	40.43	41.07	41.07	41.07	41.10	41.10	41.12	41.11	41.10	41.13	41.16			54.41		
Gas Concentrations																										
Date monitored	-	02/02/12	02/05/12	07/06/12	12/07/12	02/08/12	05/09/12	04/10/12	08/11/12	10/12/12	15/01/13	06/02/13	11/03/13	16/04/13	09/05/13	05/06/13	06/08/13	04/09/13	02/10/13	05/11/13	04/12/13	08/01/14	04/02/14	05/03/14	02/04/14	07/05/14
Time of measurement	-	11:06	14:30	16:22	09:09	14:02	11:30	15:26	13:42	12:51	11:16	10:58	10:50	11:21	11:54	15:44	15:35	12:08	12:36	11:05	14:02	11:15	11:56	13:47	12:33	10:16
Methane	% vol	46.6	44.4	49.1	48.9	52.1	48.4	58.4	56.1	48.4	60.8	54.6	55.1	50.4	49.7	51.3	51.7	52	36.5	50.6	50.7	0.1	49.6	48.3	47.6	51.9
Carbon Dioxide	% vol	22.7	26.9	28.3	25.7	26.3	28.6	29.9	29.9	29.3	34.3	32.7	29.5	31.7	29.7	28.6	28.2	30.5	21.5	31	29.6	<0.1	30.5	29.3	30.1	29.7
Oxygen	% vol	0.4	0.2	0.1	0.5	0.2	2.9	0.4	0.1	<0.1	0.1	1.6	1.1	0.2	0.3	0.3	0.3	0.2	5.6	0.2	0.5	21.3	0.1	0.6	0.2	0.2
Atmospheric Pressure	mbar	1032	1021	993	1002	998	1018	996	1003	1022	1008	1007	1015	988	995	1018	1005	1010	1007	984	1012	995	987	1007	1004	991
Gas Pressure	mbar	-0.05	0.12	-0.18	0.26	-0.26	<0.01	0.07	0.38	-0.02	-0.09	-0.12	0.21	-0.23	0.04	0.1	-0.25	<0.01	0.19	0.3	0.02	-0.08	-0.08	<0.01	0.17	-0.09
Gas Flow Rate	l/hr	0.6	<0.1	-0.1	0.1	<0.1	0.1	0.5	0.6	0.1	<0.1	0.2	0.3	-0.7	0.9	0.2	0.2	0.6	1.4	0.6	0.1	-0.6	0.3	0.5	0.1	0.4
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	°C																									
Comment			Padlock was cut off (badly rusted)	Very soft sediment at base of borehole	Very soft sediment.	Very soft sediment at base of borehole	Very soft sediment at base of borehole.		Very soft sediment at base of borehole.	Very soft sediment at base of borehole	Very soft sediment at base of borehole.	Very soft sediment at base of borehole	Very soft sediment at base of borehole.				Lid getting very stiff requires attention.					Blocked at 5.6 m	Blocked, read depth down to blockage. Gas readings taken longer than usual to stabilise.	Blocked, read depth down to blockage.	Blocked at 5.55 m.	Blocked at 5.55 m.

Cover Level - 59.862m AOD (March 2015)
Ground Level - 59.125m AOD (March 2015)

Cover Level - 59.799m AOD (May 2016)
Ground Level - 59.052m AOD (May 2016)





Fairhurst Partners
Environmental Monitoring
June 2016

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N111**										
Type Of Sample Required	None	04/06/14	02/07/14	07/08/14	03/09/14	08/10/14	03/11/14	03/12/14	11/06/15	10/12/15	22/06/16
Determinand	Units										
Water Level											
Water level to top of casing	m	Dry			Dry	Dry	Dry	Dry	Dry		5.5
Borehole depth to top of casing	m	5.55			5.42	5.44	5.55	5.55	5.53		5.5
Top of casing relative to Ordnance Datum Level	m	59.95			59.95	59.95	59.95	59.95	59.86		59.78
Water level relative to Ordnance Datum	m										54.28
Calculated purge volume	litres										
Base of Well to Ordnance Datum	m	54.40			54.53	54.51	54.40	54.40	54.33		54.28
Gas Concentrations											
Date monitored	-	04/06/14	02/07/14	07/08/14	03/09/14	08/10/14	03/11/14	03/12/14	11/06/15	10/12/15	22/06/16
Time of measurement	-	14:58	12:15	11:51	15:05	13:50	15:38	11:40	14:21	14:04	11:44
Methane	% vol	50	49	38.9	51.4	49.3	49.1	52.2	46.9	49.9	49.9
Carbon Dioxide	% vol	28.2	29.4	25.6	29.7	29.6	29.8	29.7	28.7	29.7	28.3
Oxygen	% vol	0.2	0.1	6.1	0.2	0.2	0.3	0.3	0.2	1.5	0.6
Atmospheric Pressure	mbar	1001	1007	1007	1017	985	979	1020	1012	1005	1007
Gas Pressure	mbar	-0.13	0.2	0.03	-0.25	-0.1	0.14	0.04	-0.3	-0.54	0.3
Gas Flow Rate	l/hr	0.2	0.8	0.1	<0.1	0.4	0.5	0.9	0.7	0.9	0.3
Insitu Liquid Determinations											
pH	pH units										
Electrical Conductivity	µS/cm										
Dissolved Oxygen	mg/l										
Temperature	℃										
Comment		Blocked at 5.55 m.	Blocked at 5.55 m.	Blocked at 5.55 m.	Blocked at 5.55 m.	Blocked at 5.55 m.	Blocked at 5.55 m.	Blocked at 5.55 m.	Blocked	Blocked	Blocked

Cover Level - 59.862m AOD (March 2015)
Ground Level - 59.125m AOD (March 2015)

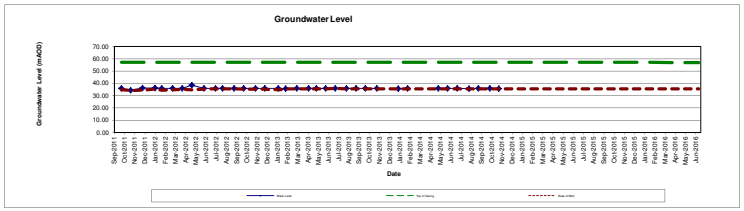
Cover Level - 59.799m AOD (May 2016)
Ground Level - 59.052m AOD (May 2016)

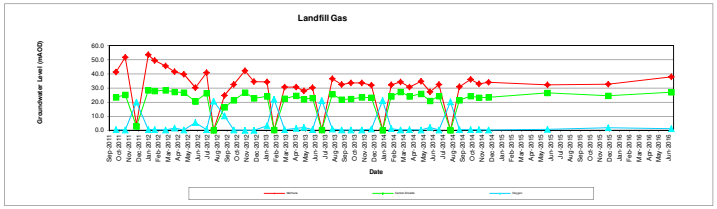
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N112																									
Type Of Sample Required	None	05/10/11	02/11/11	07/12/11	13/01/12	02/02/12	06/03/12	03/04/12	02/05/12	07/06/12	12/07/12	02/08/12	05/09/12	04/10/12	08/11/12	06/12/12	15/01/13	06/02/13	11/03/13	16/04/13	09/05/13	05/06/13	04/07/13	06/08/13	04/09/13	02/10/13
Determinand	Units																									
Water Level																										
Water level to top of casing	m	21.37	22.93	21.02	21.13	21.22	21.27	21.29	18.64	21.26	21.25	21.21	21.26	21.26	21.26	21.24	21.24	21.47	21.23	21.22	21.22	21.21	21.41	21.31	21.23	21.26
Borehole depth to top of casing	m	22.57	22.93	22.66	21.90	22.67	22.50	21.93	22.44	21.86	21.85	21.84	21.84	21.89	21.90	21.86	22.51	21.74	21.77	21.76	21.78	21.72	21.41	21.69	21.73	21.72
Top of casing relative to Ordnance Datum Level	m	57.30	57.30	57.30	57.30	57.30	57.30	57.30	57.30	57.30	57.30	57.30	57.30	57.30	57.30	57.30	57.30	57.30	57.30	57.30	57.30	57.30	57.30	57.30	57.30	57.30
Water level relative to Ordnance Datum	m	35.93	34.37	36.28	36.17	36.08	36.03	36.01	38.66	36.04	36.05	36.09	36.04	36.04	36.04	36.06	36.06	35.83	36.07	36.08	36.08	36.09	35.89	35.99	36.07	36.04
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m	34.73	34.37	34.64	35.40	34.63	34.80	35.37	34.86	35.44	35.45	35.46	35.46	35.41	35.40	35.44	34.79	35.56	35.53	35.54	35.52	35.58	35.89	35.61	35.57	35.58
Gas Concentrations																										
Date monitored	-	05/10/11	02/11/11	07/12/12	12/01/12	02/02/12	06/03/12	04/03/12	02/05/12	07/06/12	12/07/12	02/08/12	05/09/12	04/10/12	08/11/12	06/12/12	15/01/13	06/02/13	11/03/13	16/04/13	09/05/13	05/06/13	04/07/13	06/08/13	04/09/13	02/10/13
Time of measurement	-	16:09	14:35	10:22	10:19	11:15	15:47	09:01	15:23	16:40	09:32	14:29	11:18	15:16	13:18	13:17	12:28	11:03	09:35	11:59	12:30	16:00	16:27	16:09	11:01	13:06
Methane	% vol	41.2	51.7	4.1	53.5	49.4	45.5	41.6	39.7	30.1	40.9	<0.1	24.8	32.3	42.2	34.5	34.3	<0.1	30.6	30.6	27.9	30.1	0.2	36.4	32.3	33.5
Carbon Dioxide	% vol	23.4	25.2	2.7	28.3	27.9	28.4	27.1	26.8	20.3	26.3	<0.1	16.2	21.4	26.8	22.6	24.1	0.1	22.5	24.4	21.9	22.8	0.2	25.5	21.7	22.2
Oxygen	% vol	0.3	0.2	19.9	0.4	0.4	0.1	1.5	0.2	5.4	0.4	20.7	10.1	0.2	<0.1	<0.1	3.1	21.9	0.3	1.4	2.1	0.3	21	0.9	0.2	0.2
Atmospheric Pressure	mbar	989	995	984	1028	1033	1011	1018	1022	994	1004	998	1019	996	1003	992	1009	1007	1016	988	995	1018	1006	1006	1011	1007
Gas Pressure	mbar	0.11	0.04	<0.1	0.04	-0.56	0.05	-0.18	-0.17	-0.16	-0.14	-0.23	<0.01	0.08	0.34	-0.01	-0.05	-0.12	0.12	0.04	0.05	-0.14	-0.03	-0.22	<0.01	0.1
Gas Flow Rate	l/hr	0.8	1.4	<0.1	0.5	0.7	1.5	-0.7	<0.1	-0.1	<0.1	<0.1	0.1	0.3	0.8	0.9	<0.1	0.2	0.2	0.7	-0.6	0.1	-0.1	0.3	<0.1	1.1
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	ºC																									
Comment										Very soft sediment at base of borehole	Very soft sediment.	Very soft sediment at base of borehole	Very soft sediment at base of borehole.		Very soft sediment at base of borehole.	Very soft sediment at base of borehole	Very soft sediment at base of borehole.	Very soft sediment at base of borehole	Very soft sediment at base of borehole.				Lid getting very stiff	Lid getting very stiff requires attention.	Lid getting stiff requires attention.	

Cover Level - 57.072 m AOD (March 2015)
Ground Level - 55.964 m AOD (March 2015)

Cover Level - 56.969 m AOD (May 2016)
Ground Level - 55.841 m AOD (May 2016)





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N112																	
Type Of Sample Required	None	05/11/13	04/12/13	08/01/14	04/02/14	05/03/14	02/04/14	07/05/14	04/06/14	02/07/14	07/08/14	03/09/14	08/10/14	03/11/14	03/12/14	04/06/15	10/12/15	22/06/16
Determinand	Units																	
Water Level																		
Water level to top of casing	m	21.22	Dry	21.56	21.37	Dry	Dry	21.21	21.19	21.27	21.37	21.32	21.27	21.43	Dry	Dry	Dry	Dry
Borehole depth to top of casing	m	21.71	21.66	21.7	21.7	21.7	21.68	21.74	21.7	21.66	21.7	21.67	21.69	21.65	21.65	21.61	21.61	21.52
Top of casing relative to Ordnance Datum Level	m	57.30	57.30	57.30	57.30	57.18	57.18	57.18	57.18	57.18	57.18	57.18	57.18	57.18	57.18	57.18	57.18	56.97
Water level relative to Ordnance Datum	m	36.08		35.74	35.93			35.97	35.99	35.91	35.81	35.86	35.91	35.75				
Calculated purge volume	litres																	
Base of Well to Ordnance Datum	m	35.59	35.64	35.60	35.60	35.48	35.50	35.44	35.48	35.52	35.48	35.51	35.49	35.53	35.53	35.57	35.57	35.45
Gas Concentrations																		
Date monitored	-	05/11/13	04/12/13	08/01/14	04/02/14	05/03/14	02/04/14	07/05/14	04/06/14	02/07/14	07/08/14	03/09/14	08/10/14	03/11/14	03/12/14	04/06/15	10/12/15	22/06/16
Time of measurement	-	11:55	14:09	11:31	12:24	14:02	13:04	10:44	14:51	12:37	12:17	14:59	14:12	16:00	12:07	13:40	13:42	12:08
Methane	% vol	33.6	32	0.1	32.2	34.2	30.6	34.7	27.3	32.3	<0.1	30.8	36	32.9	34	32.2	32.6	37.9
Carbon Dioxide	% vol	23.3	23.2	<0.1	24.1	27.2	24.1	25.8	20.9	24.3	<0.1	21.3	24.3	23.1	23.3	26.4	24.5	27
Oxygen	% vol	0.2	0.9	21.1	1.1	0.2	0.3	0.2	2	0.1	20.2	0.5	0.5	0.4	0.2	0.7	1.7	1.2
Atmospheric Pressure	mbar	984	1013	996	987	1007	1004	991	1001	1008	1007	1017	986	979	1020	1019	1005	1007
Gas Pressure	mbar	0.27	-0.1	-0.1	<0.01	-0.01	0.05	-0.18	-0.14	0.35	<0.01	-0.22	-0.12	0.1	0.06	-0.05	-0.09	<0.01
Gas Flow Rate	l/hr	0.6	0.3	-0.6	0.2	0.2	<0.1	0.3	0.2	0.3	<0.1	0.4	0.3	<0.1	0.2	0.3	1.1	0.1
Insitu Liquid Determinations																		
pH	pH units																	
Electrical Conductivity	µS/cm																	
Dissolved Oxygen	mg/l																	
Temperature	ºC																	
Comment				Spongy														

Cover Level - 57.072 m AOD (March 2015)
Ground Level - 55.964 m AOD (March 2015)

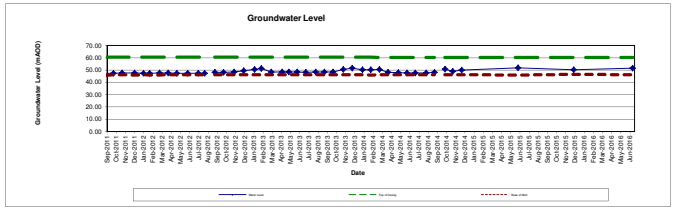
Cover Level - 56.969 m AOD (May 2016)
Ground Level - 55.841 m AOD (May 2016)

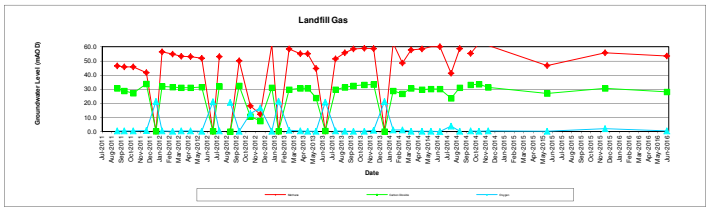
Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	N113																								
Type Of Sample Required	None	12/09/11	05/10/11	02/11/11	14/12/11	13/01/12	02/02/12	06/03/12	03/04/12	02/05/12	07/06/12	12/07/12	02/08/12	02/08/12	05/09/12	04/10/12	08/11/12	10/12/12	15/01/13	06/02/13	11/03/13	16/04/13	09/05/13	05/06/13	04/07/13	06/08/13
Determinand	Units																								
Water Level																									
Water level to top of casing	m	13.12	12.98	12.74	12.91	12.96	12.98	12.88	12.90	12.94	12.96	12.96	12.94		12.33	12.18	11.99	11.09	10.00	9.06	11.98	11.96	12.08	12.09	12.3	12.08
Borehole depth to top of casing	m	14.66	14.31	14.27	14.50	14.22	14.53	14.54	14.29	14.30	14.25	14.25	14.23		14.25	14.22	14.23	14.21	14.22	14.17	14.20	14.22	14.2	14.21	14.17	14.15
Top of casing relative to Ordnance Datum Level	m	60.46	60.46	60.46	60.46	60.46	60.46	60.46	60.46	60.46	60.46	60.46	60.46		60.46	60.46	60.46	60.46	60.46	60.46	60.46	60.46	60.46	60.46	60.46	60.46
Water level relative to Ordnance Datum	m	47.34	47.48	47.72	47.55	47.50	47.48	47.58	47.56	47.52	47.50	47.50	47.52		48.13	48.28	48.47	49.37	50.46	51.40	48.48	48.50	48.38	48.37	48.16	48.38
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m	45.80	46.15	46.19	45.96	46.24	45.93	45.92	46.17	46.16	46.21	46.21	46.23		46.21	46.24	46.23	46.25	46.24	46.29	46.26	46.24	46.26	46.25	46.29	46.31
Gas Concentrations																										
Date monitored	-	12/09/11	05/10/11	02/11/11	14/12/12	13/01/12	02/02/12	06/03/12	04/03/12	02/05/12	07/06/12	12/07/12	02/08/12		05/09/12	04/10/12	08/11/12	10/12/12	15/01/13	06/02/13	11/03/13	16/04/13	09/05/13	05/06/13	04/07/13	06/08/13
Time of measurement	-	12:44	16:29	14:23	12:08		10:58	16:05	09:12	14:40	16:06	10:02	14:20		10:55	15:41	13:26	12:45	12:03	10:58	12:35	11:46	12:14	15:54	16:14	15:55
Methane	% vol	46.4	45.9	45.8	41.7	0.2	56.5	54.8	53.3	53.1	51.9	<0.1	53.0		<0.1	50.1	18.0	12.3	61.7	<0.1	58.5	55.2	55.2	44.7	0.2	51.4
Carbon Dioxide	% vol	30.6	28.7	27.3	33.8	0.1	32	31.5	31.1	31.0	31.6	0.2	32.0		<0.1	32.3	10.6	7.4	31.0	0.1	29.7	30.6	30.5	23.8	0.3	29.6
Oxygen	% vol	0.3	0.3	0.5	0.6	21.4	0.4	0.2	0.5	0.3	0.2	21.1	0.4		20.7	0.2	12.7	16.8	0.2	21.5	0.9	0.3	0.2	0.2	20.9	0.4
Atmospheric Pressure	mbar	973	988	995	971	1027.0	1032	1010	1017	1022	993	1004	998		1019	996	1003	1022	1009	1007	1015	987	995	1018	1005	1006
Gas Pressure	mbar	0.22	0.15	-0.11	-0.18	0.1	-0.14	-0.22	<0.01	-0.14	<0.01	0.21	-0.25		0.2	0.1	0.3	0.1	-0.2	<0.01	0.09	0.32	<0.01	-0.03	-0.09	-0.2
Gas Flow Rate	l/hr	0.3	1.0	1.2	<0.1	<0.1	0.7	0.6	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	0.5	0.1	0.1	0.4	<0.1	<0.1	0.1	<0.1	0.1	0.1	0.3
Insitu Liquid Determinations																										
pH	pH units													7.0												
Electrical Conductivity	µS/cm													1350												
Dissolved Oxygen	mg/l													5.4												
Temperature	℃													14.0												
Comment			Gas tap won't close	Gas tap requires replacing	Gas tap requires replacing.	Gas tap requires replacing.	Gas tap requires replacing.	Gas tap requires replacing	Gas tap requires replacing (stuck open)	Gas tap requires replacing	Gas tap stuck in open position	Gas tap stuck open.	Gas tap stuck in open position		Gas tap stuck in open position									Tap above lid requires attention	Lid getting stiff	Lid getting very stiff requires attention.

Cover Level - 60.372 m AOD (March 2015)
Ground Level - 59.114 m AOD (March 2015)

Cover Level - 60.318 m AOD (May 2016)
Ground Level - 59.092 m AOD (May 2016)





Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N113**																				
Type Of Sample Required	None	04/09/13	02/10/13	05/11/13	04/12/13	08/01/14	04/02/14	05/03/14	02/04/14	07/05/14	04/06/14	02/07/14	07/08/14	03/09/14	02/09/14	08/10/14	03/11/14	03/12/14	08/06/15	10/12/15	22/06/16
Determinand	Units																				
Water Level																					
Water level to top of casing	m	12.06	12.1	10.04	9	10.25	10.07	9.84	12.24	12.56	12.7	12.85	12.76	12.25		9.58	11.46	10.3	8.54	10.03	8.63
Borehole depth to top of casing	m	14.19	14.2	14.2	14.15	14.18	14.39	14.19	14.19	14.2	14.13	14.16	14.18	14.18		14.18	14.17	14.18	14.39	13.94	14
Top of casing relative to Ordnance Datum Level	m	60.46	60.46	60.46	60.46	60.46	60.46	60.42	60.42	60.42	60.42	60.42	60.42	60.42		60.42	60.42	60.42	60.37	60.42	60.32
Water level relative to Ordnance Datum	m	48.40	48.36	50.42	51.46	50.21	50.39	50.58	48.18	47.86	47.72	47.57	47.66	48.17		50.84	48.96	50.12	51.83	50.39	51.69
Calculated purge volume	litres																				
Base of Well to Ordnance Datum	m	46.27	46.26	46.26	46.31	46.28	46.07	46.23	46.23	46.22	46.29	46.26	46.24	46.24		46.24	46.25	46.24	45.98	46.48	46.32
Gas Concentrations																					
Date monitored	-	04/09/13	02/10/13	05/11/13	04/12/13	08/01/14	04/02/14	05/03/14	02/04/14	07/05/14	04/06/14	02/07/14	07/08/14	03/09/14		08/10/14	03/11/14	03/12/14	08/06/15	10/12/15	22/06/16
Time of measurement	-	10:47	12:53	11:28	14:20	10:44	12:12	13:54	12:47	10:30	15:04	12:26	12:10	15:12		14:01	15:49	11:58	13:09	13:57	12:23
Methane	% vol	55.9	58.6	58.9	58.8	0.1	62.7	48.6	57.8	58.5	60.1	60	41.3	58.8		55.4	62.4	61	46.6	55.7	53.5
Carbon Dioxide	% vol	31.2	32.3	33.1	33.4	<0.1	28.8	26.7	30.5	29.6	30.1	30.1	23.5	31		33.2	33.5	31.3	27	30.7	28.2
Oxygen	% vol	0.2	0.2	0.1	0.9	21.2	1	1.2	0.2	0.1	0.1	<0.1	3.7	0.1		0.4	0.2	0.3	0.2	1.9	0.4
Atmospheric Pressure	mbar	1011	1007	984	1012	995	987	1007	1004	991	1000	1008	1007	1017		985	978	1020	1031	1004	1007
Gas Pressure	mbar	<0.01	0.13	0.29	-0.07	-0.09	-0.12	0.02	0.05	-0.13	-0.08	0.27	-0.02	-0.33		-0.08	0.14	0.1	<0.01	-0.08	0.03
Gas Flow Rate	l/hr	<0.1	0.6	0.5	0.2	-0.4	0.4	0.1	0.2	0.4	0.4	0.5	0.1	0.2		0.7	0.4	0.4	0.2	-0.2	0.3
Insitu Liquid Determinations																					
pH	pH units														6.7				6.9		6.7
Electrical Conductivity	µS/cm														655				2580		2410
Dissolved Oxygen	mg/l														6.3				0.1		0.0
Temperature	℃														16.5				13.8		13.3
Comment		Lid getting stiff requires attention.																	Very spongy at base.	Very spongy at base.	

Cover Level - 60.372 m AOD (March 2015)
Ground Level - 59.114 m AOD (March 2015)

Cover Level - 60.318 m AOD (May 2016)
Ground Level - 59.092 m AOD (May 2016)

Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**N114**																									
Type Of Sample Required	None	18/08/11	09/09/11	05/10/11	03/11/11	02/12/11	02/03/12	03/04/12	03/05/12	05/06/12	10/07/12	04/09/12	03/10/12	07/11/12	03/12/12	14/01/13	05/02/13	01/04/13	01/05/13	03/06/13	03/07/13	05/08/13	03/09/13	01/10/13	04/11/13	02/12/13
Determinand	Units																									
Water Level																										
Water level to top of casing	m																									
Borehole depth to top of casing	m																									
Top of casing relative to Ordnance Datum Level	m																									
Water level relative to Ordnance Datum	m																									
Calculated purge volume	litres																									
Base of Well to Ordnance Datum	m																									
Gas Concentrations																										
Date monitored	-																									
Time of measurement	-																									
Methane	% vol																									
Carbon Dioxide	% vol																									
Oxygen	% vol																									
Atmospheric Pressure	mbar																									
Gas Pressure	mbar																									
Gas Flow Rate	l/hr																									
Insitu Liquid Determinations																										
pH	pH units	7.7	7.2	6.9	7.3	7.6	7.2	7.4	7.0	7.3	6.9	7.0	7.3	7.1	7.4	6.9	6.9	7.1	7.4	7.4	6.7	6.4	6.6	6.8	7.2	7.2
Electrical Conductivity	µS/cm	650	2820	1570	1020	1130	2200	655	1130	775	950	1620	545	1100	760	820	1090	1200	1590	1430	1460	915	930	815	585	915
Dissolved Oxygen	mg/l	8.6	1.4	8.1	8.4	10.1	7.0	10.6	4.9	10.1	7.1	3.6	9.0	7.7	11.1	8.5	8.5	7.3	6.7	4.5	2.6	2.8	4.9	7.2	11.2	8.4
Temperature	℃	14.0	13.5	13.5	12.5	9.7	7.1	7.5	8.9	10.5	12.5	13.8	12.5	9.9	7.6	6.4	6.5	7.5	7.9	9.7	11.1	14.4	16.3	13.7	11.1	8.9
Comment																										

Ness Farm Landfill
Field Monitoring Sheet

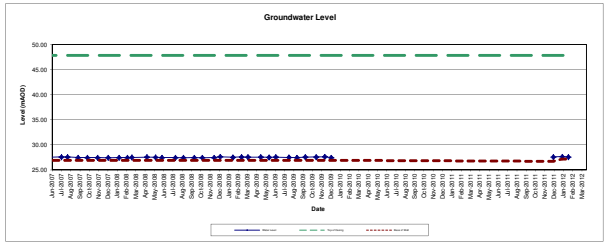
Sampling Location	**N114**												
Type Of Sample Required	None	07/01/14	03/02/14	04/03/14	01/04/14	06/05/14	02/06/14	01/07/14	05/08/14	08/10/14	03/11/14	04/06/15	22/06/16
Determinand	Units												
Water Level													
Water level to top of casing	m												
Borehole depth to top of casing	m												
Top of casing relative to Ordnance Datum Level	m												
Water level relative to Ordnance Datum	m												
Calculated purge volume	litres												
Base of Well to Ordnance Datum	m												
Gas Concentrations													
Date monitored	-												
Time of measurement	-												
Methane	% vol												
Carbon Dioxide	% vol												
Oxygen	% vol												
Atmospheric Pressure	mbar												
Gas Pressure	mbar												
Gas Flow Rate	l/hr												
Insitu Liquid Determinations													
pH	pH units	7.1	7.4	7.3	7.1	6.7	6.7	6.8	6.7	7	6.8	7.3	6.8
Electrical Conductivity	µS/cm	655	600	605	1280	1170	1610	1210	1270	390	610	760	640
Dissolved Oxygen	mg/l	11.5	10.8	11.8	6.7	4.0	5.1	5.3	1.3	8.4	8.1	6.04	6.56
Temperature	℃	8.1	7.3	7.2	8.3	9.7	11.1	12.0	15.6	14.4	12.2	10.3	12.5
Comment													

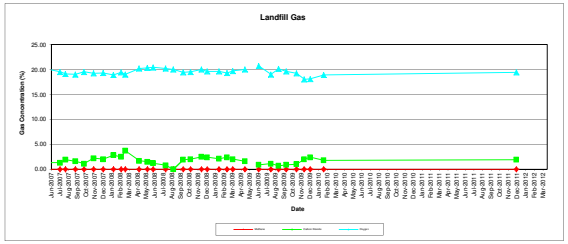
APPENDIX C:

C2 – Tullos Hill In-Situ Monitoring

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T1																		
Type Of Sample Required	Groundwater	21/06/04	04/08/04	23/08/04	24/09/04	28/10/04	17/11/2004	14/12/2004	25/01/05	09/03/05	18/04/05	14/05/05	28/06/05	20/07/05	14/08/05	14/09/05	28/10/05	18/11/05	07/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	21.28	21.30	11.60	11.61	11.62	11.60	20.20	20.21	20.25	Dry	21.11	20.10	17.29	20.10	Dry	20.43	20.41	20.41
Borehole depth to top of casing	m	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90
Casing Top relative to Ordnance Datum	m	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82
Water level relative to Ordnance Datum	m	26.54	26.52	36.22	36.21	36.20	36.22	27.62	27.61	27.57		26.71	27.72	30.53	27.72		27.39	27.41	27.41
Calculated purge volume	litres	-9.12																	
Base of well (OD)		26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92
Gas Concentrations																			
Date monitored	-	21/06/04	04/08/04	23/08/04	24/09/04	28/10/2004	17/11/2004	14/12/2004	25/01/2005	09/03/2005	18/04/2005	14/05/2005	28/06/2005	20/07/2005	14/08/2005	14/09/2005	28/10/2005	18/11/2005	07/12/2005
Time of measurement	-		14:07	1400hrs	09:15	14:00	11:00	09:10	13:00	09:10	7.35am	7.25	4.00	8.31	8.36	14:20	09:45	14:27	12:17
Methane	% vol	<0.1	<0.1	0.10	0.20	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.50	0.70	<0.1	1.00	1.00	1.30	1.50	1.30	1.40	1.90	1.40	1.30	<0.1	0.10	0.40	1.00	1.60	1.30
Oxygen	% vol	20.20	20.00	20.70	19.20	19.10	19.20	19.30	19.10	20.10	21.20	19.30	17.50	16.40	9.20	21.40	19.70	18.90	19.00
Atmospheric Pressure	mbars	1005	1007	997	1018	1010	992	994	992	1023	1010	1010	995	1015	1016	1005	991	1021	1006
Gas Pressure	mbars	0.0		2.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.1	<0.1	0.1	0.1	0		1	5.1
Gas Flow Rate	l/hr	<0.1		2.3	3.2	3.1	2.9	0.6	0.6	2.1	1.1	0.1	0.3	<0.1	<0.1	1.2		<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units												6.3						
Electrical Conductivity	µS/cm												1290						
Dissolved Oxygen	mg/l												5.2						
Temperature	℃												10.1						
Comment		Insufficient sample			Change Watera tubing twice, could not get sample		Not required	Changed Watera, Unable to get sample		Insufficent to Sample		Insufficent to sample							Insufficent to sample





Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T1**																								
Type Of Sample Required	Groundwater	11/01/06	10/02/06	21/03/06	11/04/06	04/05/06	08/06/06	14/07/06	09/08/06	11/09/06	04/10/06	07/11/06	11/12/06	10/01/07	06/02/07	14/03/07	18/04/07	22/05/07	14/06/07	17/07/07	06/08/07	10/09/07	10/10/07	13/11/07	17/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	20.18	20.32	20.21	20.22	20.30	20.38	DRY	DRY	20.40	20.37	20.32	20.26	20.34	20.34	20.20	20.22	20.35	20.27	20.25	20.25	20.37	20.38	20.37	20.39
Borehole depth to top of casing	m	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90
Casing Top relative to Ordnance Datum	m	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82
Water level relative to Ordnance Datum	m	27.64	27.50	27.61	27.60	27.52	27.44			27.42	27.45	27.50	27.56	27.48	27.48	27.62	27.60	27.47	27.55	27.57	27.57	27.45	27.44	27.45	27.43
Calculated purge volume	litres																								
Base of well (OD)		26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92
Gas Concentrations																									
Date monitored	-	11/01/2006	10/02/2006	21/03/2006	11/04/2006	04/05/2006	08/06/2006	14/07/2006	09/08/2006	11/09/2006	04/10/2006	07/11/2006	11/12/2006	10/01/2007	06/02/2007	14/03/2007	18/04/2007	22/05/2007	14/06/2007	17/07/2007	06/08/2007	10/09/2007	10/10/2007	13/11/2007	17/12/2007
Time of measurement	-	11:27	10:22	10:53	15:40	16:18	10:45	09:52	10:50	11:20	11:10	11:07	14:15	15:13	16:00	10:30	15:55	12:30	11:55	10:50	12:10	14:50	11:05	10:15	11:25
Methane	% vol	0.10	0.00	0.00	0.00	0.00	0.00	0.10	0.10	0.00	0.20	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0
Carbon Dioxide	% vol	1.30	1.40	1.30	1.30	1.00	1.20	1.30	1.10	0.70	1.40	1.4	2	1.6	1.1	1.9	2.2	1.1	1.3	1.3	1.9	1.6	1.1	2.2	2
Oxygen	% vol	19.40	19.30	18.90	19.40	19.80	20.10	19.80	20.00	20.20	19.10	19.7	18.5	19.4	19.6	19.2	19	20	19.9	19.5	19.1	19	19.5	19.2	19.3
Atmospheric Pressure	mbars	999	1019	1010	989	1011	1016	1026	1001	1005	1001	1008	991	999	1000	1020	1004	1009	1002	999	1004	1012	1021	1003	1034
Gas Pressure	mbars	1.8	0.9	1.2	1.7	0.7	0.7	1.6	0.12	2.7	<0.1	1.8	2.2	1.6	1	1.6	1.1	2	1.5	1.2	0.2	<0.1	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr	<0.1	0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	ºC																								
Comment										Insufficient liquid to obtain sample			Insufficient liquid to obtain sample			Insufficient water to purge			Insufficient liquid to sample			Insufficient liquid to sample	Insufficient liquid to sample	Insufficient liquid to sample	Insufficient liquid to sample

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T1**																								
Type Of Sample Required	Groundwater	22/01/08	18/02/08	04/03/08	22/04/08	21/05/08	10/06/08	24/07/08	20/08/08	24/09/08	21/10/08	28/11/08	18/12/08	29/01/09	26/02/09	19/03/09	30/04/09	28/05/09	18/06/09	31/07/09	27/08/09	23/09/09	29/10/09	26/11/09	17/12/09
Determinand	Units																								
Water Level																									
Water level to top of casing	m	20.38	20.37	20.35	20.26	20.3	20.36	20.38	20.40	20.38	20.40	20.38	20.20	20.30	20.23	20.27	20.27	20.31	20.26	20.32	20.37	20.28	20.23	20.20	20.36
Borehole depth to top of casing	m	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90
Casing Top relative to Ordnance Datum	m	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82	47.82
Water level relative to Ordnance Datum	m	27.44	27.45	27.47	27.56	27.52	27.46	27.44	27.42	27.44	27.42	27.44	27.62	27.52	27.59	27.55	27.55	27.51	27.56	27.50	27.45	27.54	27.59	27.62	27.46
Calculated purge volume	litres	4.16	4.24	4.40	5.12	4.80	4.32	4.16	4.00	4.16	4.00	4.16	5.60	4.80	5.36	5.04	5.04	4.72	5.12	4.64	4.24	4.96	5.36	5.60	4.32
Base of well (OD)		26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92
Gas Concentrations																									
Date monitored	-	22/01/08	18/02/08	04/03/08	22/04/08	21/05/08	10/06/08	24/07/08	20/08/08	24/09/08	21/10/08	28/11/08	18/12/08	29/01/09	26/02/09	19/03/09	30/04/09	28/05/09	18/06/09	31/07/09	27/08/09	23/09/09	29/10/09	26/11/09	17/12/09
Time of measurement	-	11:45	13:45	11:55				0:00	13:10	9:36	8:09	6:14	13:26	11:31	15:24	16:03	15:50		16:06	00:00	12:09	11:46	11:29	12:57	13:26
Methane	% vol	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0
Carbon Dioxide	% vol	2.8	2.5	3.7	1.7	1.5	1.2	0.8	<0.1	1.9	2	2.5	2.4	2.1	2.4	2	1.6		0.9	1.1	0.7	0.9	1	2	2.4
Oxygen	% vol	18.9	19.4	19	20.2	20.3	20.4	20.2	20	19.4	19.5	20	19.6	19.6	19.3	19.7	20		20.7	19	20.1	19.6	19.2	18	18.1
Atmospheric Pressure	mbars	1009	988	1021	1007	1012	1010	1009	990	1021	992	996	1002	1016	1011	1030	1010		999	1011	1001	1013	1017	973	1015
Gas Pressure	mbars	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.5	<0.1	<0.1	<0.1	1.13	1.19	0.02	0.94	0.02	0.02		0.08	0.07	0.02	0.02	0.06	0.01	0.02
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	ºC																								
Comment		Insufficient liquid to sample	Insufficient liquid to sample	Insufficient liquid to sample														Insufficient water to sample							

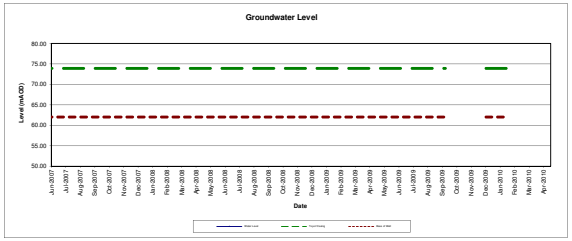
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

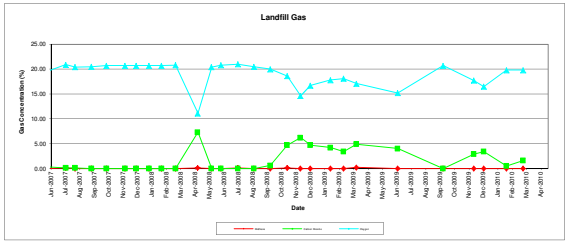
Sampling Location	T1					
Type Of Sample Required	Groundwater	03/02/10	14/12/11	12/01/12	01/02/12	
Determinand	Units					
Water Level						
Water level to top of casing	m		20.23	20.19	20.24	
Borehole depth to top of casing	m	20.90	21.13	20.65	20.69	
Casing Top relative to Ordnance Datum	m	47.82	47.82	47.82	47.82	
Water level relative to Ordnance Datum	m		27.59	27.63	27.58	
Calculated purge volume	litres					
Base of well (OD)		26.92	26.69	27.17	27.13	
Gas Concentrations						
Date monitored	-	03/02/10	12/12/12	01/02/12	13/01/12	
Time of measurement	-	13:40	13:47	14:45	14:33	
Methane	% vol	0	<0.1			
Carbon Dioxide	% vol	1.8	1.9			
Oxygen	% vol	18.9	19.4			
Atmospheric Pressure	mbars	1012	989			
Gas Pressure	mbars	0.04	<0.1			
Gas Flow Rate	l/hr	0	<0.1			
Insitu Liquid Determinations						
pH	pH units					
Electrical Conductivity	µS/cm					
Dissolved Oxygen	mg/l					
Temperature	ºC					
Comment						

Well no longer monitored

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T2																		
Type Of Sample Required	Groundwater	22/06/04	04/08/04	24/08/04	23/09/04	05/11/04	17/11/2004	14/12/2004	25/01/05	09/03/05	18/04/05	14/05/05	29/06/05	20/07/05	14/08/05	14/09/05	29/10/05	17/11/05	06/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	12.58	11.58	11.61	11.72	11.72	11.71	11.70	11.70	11.70	4.10	12.10	10.20	8.41		11.41	Dry	11.55	11.54
Borehole depth to top of casing	m	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86		11.86	11.86	11.86	11.86
Casing Top relative to Ordnance Datum	m	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90		73.90	73.90	73.90	73.90
Water level relative to Ordnance Datum	m	61.32	62.32	62.29	62.18	62.18	62.19	62.20	62.20	62.20	69.80	61.80	63.70	65.49		62.49		62.35	62.36
Calculated purge volume	litres	-17.28																	
Base of well (OD)		62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04		62.04	62.04	62.04	62.04
Gas Concentrations																			
Date monitored	-	22/06/04	04/08/04	24/08/04	23/09/04	05/11/2004	17/11/2004	14/12/2004	25/01/2005	09/03/2005	18/04/2005	14/05/2005	29/06/2005	20/07/2005	14/08/2005	14/09/2005	29/10/2005	17/11/2005	06/12/2005
Time of measurement	-		14:10	1450hrs	13:00	09:05	11:15	09:20	13:10	12:20	8.25am	8.30	8.30	9.11		14:25	12:02	14:18	11:39
Methane	% vol	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	1.1	0.1	0.1	1.1		<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.5	0.1	0.1	0.1		0.3	0.3	1.3	2.4
Oxygen	% vol	20.4	20.7	20.9	20.7	20	19.4	19.8	19.9	20.5	19.8	18.5	18.7	14.2		19.6	19.9	18.3	17.2
Atmospheric Pressure	mbars	1003	1007	999	1004	1010	992	994	992	1018	1010	1010	995	1016		1005	998	1009	1000
Gas Pressure	mbars	0.0	0.6	2	1.8	1.8	1.4	<0.1	<0.1	<0.1	0.4	0.1	1.1	1.1		0.6		1.2	6.2
Gas Flow Rate	l/hr	<0.1		2.4	2.4	2.3	2.3	0.8	0.7	1.3	2.1	<0.1	0.1	0.1		<0.1		<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units										6.29		4.6						
Electrical Conductivity	µS/cm										4410		7510						
Dissolved Oxygen	mg/l										15.9		14.1						
Temperature	℃										8.9		10						
Comment		Insufficient sample			Insufficient Sample		Not required	Insufficient to Sample		Insufficent to Sample		Insufficient to sample			Cannot Locate	Insufficient	No Lid	No Lid	Insufficient





Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T2**																								
Type Of Sample Required	Groundwater	09/01/06	08/02/06	10/03/06	11/04/06	03/05/06	26/06/06	13/07/06	07/08/06	11/09/06	02/10/06	09/11/06	12/12/06	10/01/07	12/02/07	12/03/07	18/04/07	22/05/07	13/06/07	18/07/07	07/08/07	10/09/07	12/10/07	20/11/07	14/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	11.48	11.51	11.45	11.47	11.44	11.55	11.53	11.56	11.53	11.51	11.58	DRY	11.62	11.62	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
Borehole depth to top of casing	m	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86
Casing Top relative to Ordnance Datum	m	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90
Water level relative to Ordnance Datum	m	62.42	62.39	62.45	62.43	62.46	62.35	62.37	62.34	62.37	62.39	62.32		62.28	62.28										
Calculated purge volume	litres					N/A	0.00	N/A	N/A	0.00	N/A	N/A	0.00	N/A	N/A	DRY	N/A	N/A	DRY	N/A	N/A	N/A	N/A	N/A	N/A
Base of well (OD)		62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04
Gas Concentrations																									
Date monitored	-	09/01/2006	08/02/2006	10/03/2006	11/04/2006	03/05/2006	26/06/2006	13/07/2006	07/08/2006	11/09/2006	02/10/2006	09/11/2006	12/12/2006	10/01/2007	12/02/2007	12/03/2007	18/04/2007	22/05/2007	13/06/2007	18/07/2007	07/08/2007	10/09/2007	12/10/2007	20/11/2007	14/12/2007
Time of measurement	-	15:01	15:30	14:07	12:52	16:01	16:26	16:40	15:30	13:48	12:04	11:10	12:35	12:00	14:00	14:10	11:50	14:15	13:50	10:35	10:20	13:45	14:05	15:40	14:00
Methane	% vol	0.2	0.00	0.00	0.0	0.0	0.0	0.3	0.2	0.0	0.0	0.2	0	0	0	0	0	0	0	0.1	0	0	0	0	0
Carbon Dioxide	% vol	6.9	12.00	9.50	5.6	2.4	1.1	9.6	6.2	0.0	0.0	0.8	1.2	0.6	0.7	0.4	0.3	0.2	0.3	0.1	0.1	0	0	0	0
Oxygen	% vol	11.8	5.20	5.60	14.5	18.0	18.7	8.4	11.5	20.7	20.7	19.6	19.4	19.7	19.5	19.7	19.7	19.8	19.7	20.9	20.4	20.5	20.7	20.7	20.7
Atmospheric Pressure	mbars	1000	999	996	986	997	1007	1015	1012	1001	994	1018	988	992	999	1003	1003	1004	998	1007	999	1007	1005	1009	1009
Gas Pressure	mbars	1.9	2.3	0.3	0.8	1.2	<0.1	4.3	0.22	1.5	0.8	0.4	0.7	1	0.7	0.4	0.5	0.2	<0.1	1.2	0.2	<0.1	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment			No cover	No cover	No cover	No cover	No cover	No cover	No cover	Insufficient liquid to obtain sample			Insufficient liquid to obtain sample												

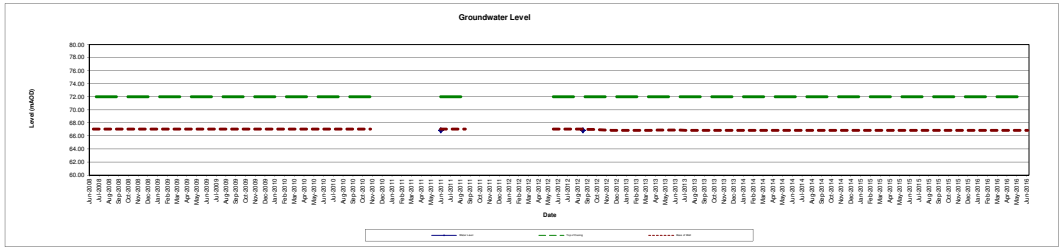
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T2**																						
Type Of Sample Required	Groundwater	10/01/08	05/02/08	06/03/08	22/04/08	21/05/08	10/06/08	16/07/08	19/08/08	22/09/08	28/10/08	25/11/08	16/12/08	27/01/09	24/02/09	23/03/09	18/06/09	22/09/09	26/11/09	17/12/09	03/02/10	10/03/10	
Determinand	Units																						
Water Level																							
Water level to top of casing	m	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY		DRY	DRY		
Borehole depth to top of casing	m	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86	11.86		11.86	11.86		
Casing Top relative to Ordnance Datum	m	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90	73.90		73.90	73.90		
Water level relative to Ordnance Datum	m																						
Calculated purge volume	litres	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A												
Base of well (OD)		62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04	62.04		62.04	62.04		
Gas Concentrations																							
Date monitored	-	10/01/2008	05/02/2008	06/03/2008	22/04/2008	21/05/2008	10/06/2008	16/07/2008	19/08/2008	22/09/2008	28/10/2008	25/11/2008	16/12/2008	27/01/2009	24/02/2009	23/03/2009	18/06/2009	22/09/2009	26/11/2009	17/12/2009	03/02/2010	10.03.10	
Time of measurement	-	15:20	15:00	13:00				00:00	14:58	04:33	12:14	13:55	00:14	06:57	14:00	15:34	14:58	13:43	11:50	12:16	01:55	13:40	
Methane	% vol	0	0	0	0.1	0	0	0.1	0	0	0.1	0	0	0	0	0.2	0	0	0	0	0	<0.1	
Carbon Dioxide	% vol	0	0	0	7.3	0	0	0	0	0.6	4.7	6.2	4.7	4.2	3.4	4.9	4	0	2.9	3.4	0.5	1.6	
Oxygen	% vol	20.7	20.7	20.8	11.1	20.4	20.8	21	20.5	20	18.6	14.6	16.7	17.8	18.1	17.1	15.2	20.7	17.7	16.5	19.8	19.8	
Atmospheric Pressure	mbars	973	996	999	1013	1009	1006	996	978	1012	997	1018	998	1007	1022	1003	997	996	969	1012	1008	1023	
Gas Pressure	mbars	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	2.07	-0.19	-0.01	0.02	0.01	0.07	-0.04	0.03	-0.01	0.09	0.01	
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.4	0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0	+/-0.1	
Insitu Liquid Determinations																							
pH	pH units																						
Electrical Conductivity	µS/cm																						
Dissolved Oxygen	mg/l																						
Temperature	ºC																						
Comment																							

Well no longer monitored

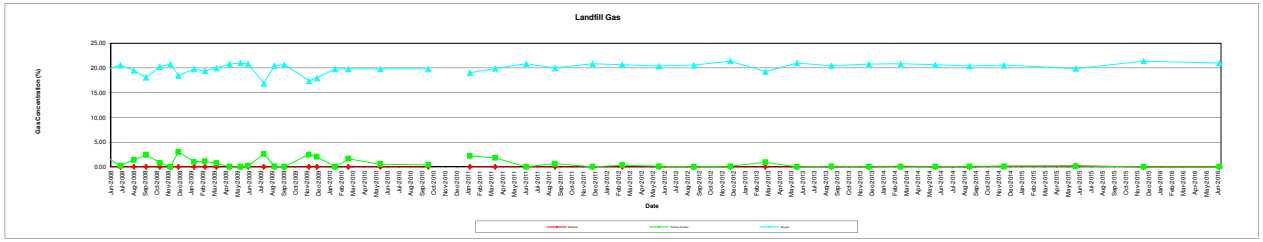
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T3																			
Type Of Sample Required	None	22/06/04	04/08/04	23/08/04	23/09/04	28/10/04	18/11/04	14/12/04	25/01/05	09/03/05	18/04/05	14/05/05	29/06/05	20/07/05	14/08/05	14/09/05	29/10/05	18/11/05	06/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	4.61	4.21	Dry	4.82	Dry	Dry	5.03
Borehole depth to top of casing	m	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95
Casing Top relative to Ordnance Datum	m	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97
Water level relative to Ordnance Datum	m												67.36	67.76		67.15			66.94
Calculated purge volume	litres																		
Base of well (OD)		67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02
Gas Concentrations																			
Date monitored	-	22/06/04	04/08/04	23/08/04	23/09/04	28/10/2004	18/11/2004	14/12/2004	25/01/2005	09/03/2005	18/04/2005	14/05/2005	29/06/2005	20/07/2005	14/08/2005	14/09/2005	29/10/2005	18/11/2005	06/12/2005
Time of measurement	-		14:12	1405hrs	13:10	14:05	13:10	09:30	13:20	09:30	9.00am	9.20	10.00	9.46	10.21	14:55	11:56	13:58	11:30
Methane	% vol	<0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	0.1	<0.1	0.1	2.8	1.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.4	0.6	0.1	<0.1	<0.1	<0.1	0.1	0.1	1.1	1.1	2.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	0.2
Oxygen	% vol	20.0	19.8	20.6	20.7	20.4	20.3	20.2	20.3	19.4	20.4	17.4	19.4	17.4	13.6	21.2	20.4	20.4	20.7
Atmospheric Pressure	mbars	1002	1007	997	1004	1008	1010	994	992	1019	1010	1010	995	1015	1016	1005	998	1018	1000
Gas Pressure	mbars	0.0		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.1	1.1	0.1	<0.1	<0.1	0.3			
Gas Flow Rate	l/hr	<0.1		2.4	2.4	2.5	2.5	2	1.9	1.8	2.3	0.1	0.1	<0.1	<0.1	0.1			
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment															No Valve				Valve missing



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T3																									
Type Of Sample Required	None	09/01/06	08/02/06	10/03/06	11/04/06	03/05/06	05/06/06	13/07/06	07/08/06	11/09/06	02/10/06	09/11/06	12/12/06	10/01/07	12/02/07	06/03/07	18/04/07	22/05/07	13/06/07	18/07/07	07/08/07	10/09/07	12/10/07	20/11/07	14/12/07
Determinand	Units																									
Water Level																										
Water level to top of casing	m	Dry	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
Borehole depth to top of casing	m	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95
Casing Top relative to Ordnance Datum	m	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97
Water level relative to Ordnance Datum	m																									
Calculated purge volume	litres																									
Base of well (OD)		67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02
Gas Concentrations																										
Date monitored	-	09/01/2006	08/02/2006	10/03/2006	11/04/2006	03/05/2006	05/06/2006	13/07/2006	07/08/2006	11/09/2006	02/10/2006	09/11/2006	12/12/2006	10/01/2007	12/02/2007	06/03/2007	18/04/2007	22/05/2007	13/06/2007	18/07/2007	07/08/2007	10/09/2007	12/10/2007	20/11/2007	14/12/2007	
Time of measurement	-	15:11	15:37	14:22	12:45	13:37	14:00	16:50	15:40	14:00	12:11	11:16	12:42	12:10	13:50	15:15	12:00	14:25	14:00	10:45	10:35	16:20	14:20	15:50	14:10	
Methane	% vol	0.2	0.00	0.00	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0	0	0	0	0	0	0	0.1	0	0	0	0.0	0.0	
Carbon Dioxide	% vol	1.4	1.30	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0	0	0	0	0	2.7	2.3	2.7	3.5	3	2.1	
Oxygen	% vol	19	19.50	19.30	18.9	20.6	20.6	20.6	20.6	20.7	20.7	20.7	20.3	20.8	20.9	20.9	20.9	20.8	20.9	15.9	17.5	17.3	17.1	17.6	18.5	
Atmospheric Pressure	mbars	1000	999	996	986	996	1012	1015	1012	1002	994	1018	988	992	999	974	1003	1004	998	1007	999	1014	1005	1009	1009	
Gas Pressure	mbars												0.4	2.8	2.2	1.5	0.8	0.3	0.2	3.5	<0.1	<0.1	<0.1	<0.1	<0.1	
Gas Flow Rate	l/hr												<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	℃																									
Comment		Valve missing	No tap	No tap	No tap	No tap	No tap	No tap	No tap	No tap	No tap	No tap														



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

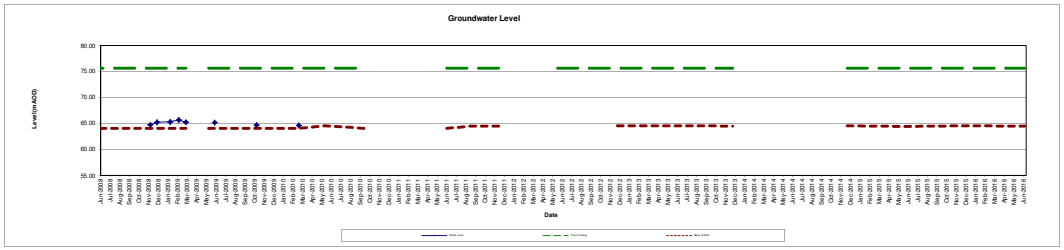
Sampling Location	**T3**																								
Type Of Sample Required	None	10/01/08	05/02/08	06/03/08	22/04/08	21/05/08	10/06/08	16/07/08	21/08/08	22/09/08	28/10/08	25/11/08	16/12/08	27/01/09	24/02/09	27/03/09	30/04/09	29/05/09	18/06/09	30/07/09	27/08/09	22/09/09	26/11/09	17/12/09
Determinand	Units																								
Water Level																									
Water level to top of casing	m	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
Borehole depth to top of casing	m	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95	4.95
Casing Top relative to Ordnance Datum	m	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97
Water level relative to Ordnance Datum	m																								
Calculated purge volume	litres																								
Base of well (OD)		67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02	67.02
Gas Concentrations																									
Date monitored	-	10/01/2008	05/02/2008	06/03/2008	22/04/2008	21/05/2008	10/06/2008	16/07/2008	21/08/2008	22/09/2008	28/10/2008	25/11/2008	16/12/2008	27/01/2009	24/02/2009	27/03/2009	30/04/2009	29/05/2009	18/06/2009	30/07/2009	27/08/2009	22/09/2009	26/11/2009	17/12/2009	
Time of measurement	-	15:30	15:10	13:10				00:00	13:50	08:38	14:09	00:28	02:09	00:28	14:18	13:19	13:30	15:22	14:46	12:25	11:18	13:40	11:58	12:26	
Methane	% vol	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Carbon Dioxide	% vol	1.9	2.4	3.1	1.6	0.5	1.9	0.2	1.4	2.4	0.8	0	3	1	1.1	0.7	0	0	0.2	2.6	0.1	0	2.5	2	
Oxygen	% vol	19.2	18.9	18.2	18.9	20	19.7	20.6	19.5	18.1	20.3	20.8	18.5	19.8	19.4	20	20.8	21	20.9	16.9	20.5	20.7	17.4	18	
Atmospheric Pressure	mbars	973	996	999	1013	1008	1006	996	992	1012	997	1018	1000	1007	1022	972	1007	1021	997	999	999	996	970	1012	
Gas Pressure	mbars	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0	-0.02	-0.05	-0.06	0.05	-0.04	-0.87	0.03	-0.04	0.06	0.05	0.04	0.03	
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment																									

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T3**				(Sept mon)		(Dec Mon)	(March Mon)																			
Type Of Sample Required	None	03/02/10	10/03/10	02/06/10	07/10/10	15/11/10	25/01/11	01/04/11	22/06/11	06/09/11	14/12/11	02/03/12	07/06/12	07/09/12	12/12/12	14/03/13	06/06/13	05/09/13	12/12/13	06/03/14	05/06/14	03/09/14	04/12/14	11/06/15	07/12/15	24/06/16
Determinand	Units																										
Water Level																											
Water level to top of casing	m	DRY			DRY				5.10	Dry			Dry	5.09	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Borehole depth to top of casing	m	4.95			4.95				4.95	5.11			5.12	5.12	5.13	5.11	5.08	5.11	5.1	5.13	5.12	5.13	5.1	5.11	5.10	5.12
Casing Top relative to Ordnance Datum	m	71.97	71.97	71.97	71.97	71.97			71.97	71.97			71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97	71.97
Water level relative to Ordnance Datum	m								66.87					66.88												
Calculated purge volume	litres																									
Base of well (OD)		67.02	67.02	67.02	67.02	67.02			67.02	67.02			67.02	67.02	66.84	66.86	66.89	66.86	66.87	66.84	66.85	66.84	66.87	66.86	66.87	66.85
Gas Concentrations																										
Date monitored	-	03/02/2010	10/03/2010	02/06/2010	07/10/2010		25/01/2011	01/04/2011	22/06/2011	06/09/11	12/12/12	02/03/12	07/06/2012	07/09/12	12/12/12	14/03/13	06/06/13	05/09/13	12/12/13	06/03/14	05/06/14	03/09/14	04/12/14	11/06/15	07/12/15	24/06/16
Time of measurement	-	01:12	13:40	12:12	09:30			18:40	14:37	14:49	13:15	14:49	13:18	13:17	13:41	13:45	12:22	13:47	14:19	12:02	13:02	12:51	10:34	13:26	11:16	14:17
Methane	% vol	0	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	0	1.6	0.5	0.4		2.2	1.8	<0.1	0.6	<0.1	0.3	0.1	<0.1	0.1	0.9	<0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1
Oxygen	% vol	19.8	19.8	19.8	19.8		19.05	19.9	20.9	20.0	20.9	20.7	20.4	20.6	21.4	19.3	21	20.5	20.8	20.9	20.7	20.4	20.6	19.9	21.4	21
Atmospheric Pressure	mbars	1009	1023	1009	1013		1007	999	999	977	986	1019	992	1009	1006	1000	1018	1004	1006	1007	999	1016	1010	1012	1013	1006
Gas Pressure	mbars	0.08	0.01	0.23	-0.05		0.07	-0.12	0.00	0.01	<0.1	0.11	-0.24	-0.02	-0.05	-0.03	0.14	0.02	-0.11	-0.14	-0.2	-0.15	-0.02	-0.04	-0.02	0.09
Gas Flow Rate	l/hr	0	+/-0.1	+/-0.1	+/-0.1		+/-0.1	0	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	-0.2	0.3
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	ºC																									
Comment				Bung & Tap Stuck. Unable to dip.		Visit not undertaken due to adverse weather	Could not remove bung to dip	Could not remove bung to dip		Borehole dry	Bung couldn't be removed	Bung could not be removed	Padlock removed - key did not fit. Borehole dry.	Dry												

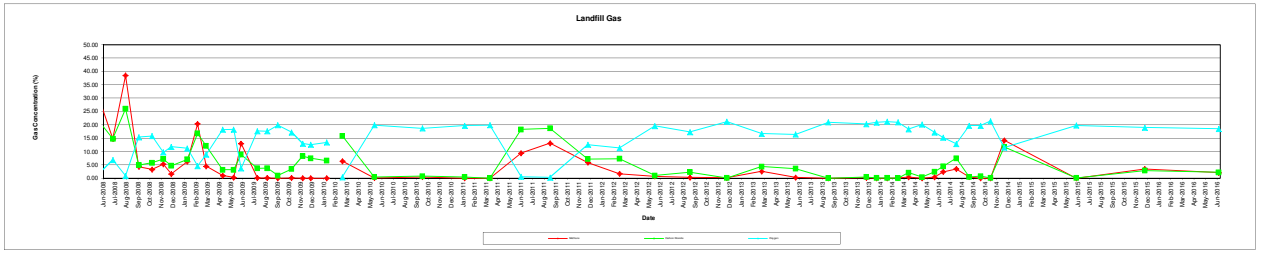
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T4																		
Type Of Sample Required	None	21/06/04	04/08/04	23/08/04	23/09/04	28/10/04	17/11/04	14/12/04	25/01/05	09/03/05	18/04/05	14/05/05	29/06/05	20/07/05	14/08/05	14/09/05	01/11/05	18/11/05	06/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	11.20	11.24	11.24	11.24	11.25	11.24	11.24	11.23	11.29	6.20	7.81	6.80		Dry	11.30	11.18	Dry	Dry
Borehole depth to top of casing	m	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55
Casing Top relative to Ordnance Datum	m	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58
Water level relative to Ordnance Datum	m	64.38	64.34	64.34	64.34	64.33	64.34	64.34	64.35	64.29	69.38	67.77	68.78			64.28	64.40		
Calculated purge volume	litres																		
Base of well (OD)		64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03
Gas Concentrations																			
Date monitored	-	21/06/04	04/08/04	23/08/04	23/09/04	28/10/2004	17/11/2004	14/12/2004	25/01/2005	09/03/2005	18/04/2005	14/05/2005	29/06/2005	20/07/2005	14/08/2005	14/09/2005	01/11/2005	18/11/2005	06/12/2005
Time of measurement	-		15:01	1407hrs	13:15	14:10	11:10	09:40	13:30	09:40	9.25am	10.00	12.00	10.21	10.52	12:15	13:07	13:53	11:23
Methane	% vol	39.50	1.4	36.3	0.1	1.1	13	33.4	31.9	43.5	0.1	2.8	2.1	1.2	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	21.0	1	19.8	1.7	1.6	10.3	16	15.8	19.4	0.1	2.1	1.3	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Oxygen	% vol	0.8	21.2	0.3	17.4	17.6	9.2	4.9	5.1	2.4	20.4	17.4	17.1	16.7	11.2	18.6	20.3	20.4	20.7
Atmospheric Pressure	mbars	1001	1008	997	1004	1008	992	990	991	1019	1010	1010	996	1015	1016	1005	991	1018	999
Gas Pressure	mbars	0.0	5.3	0.6	2.1	2	<0.1	<0.1	<0.1	<0.1	1.1	1.1	1.2	0.1	0.1	0.1			
Gas Flow Rate	l/hr	0.2		2.4	2.6	2.5	3.2	0.5	0.4	1.9	2.3	0.1	1.1	<0.1	<0.1	<0.1			
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment															No Top Plate		Valve missing	Valve missing	Valve missing



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T4																								
Type Of Sample Required	None	09/01/06	08/02/06	09/03/06	11/04/06	03/05/06	05/06/06	13/07/06	07/08/06	08/09/06	02/10/06	06/11/06	06/12/06	09/01/07	19/02/07	06/03/07	17/04/07	15/05/07	11/06/07	17/07/07	06/08/07	10/09/07	09/10/07	16/11/07	05/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	Dry	11.13	11.10	DRY	10.89	10.96	DRY	DRY	DRY	DRY	DRY	-	DRY	DRY	DRY	10.98	DRY	DRY	DRY	DRY	DRY	DRY	DRY	10.98
Borehole depth to top of casing	m	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55
Casing Top relative to Ordnance Datum	m	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58
Water level relative to Ordnance Datum	m		64.45	64.48													64.60								64.60
Calculated purge volume	litres																								4.56
Base of well (OD)		64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03
Gas Concentrations																									
Date monitored	-	09/01/2006	08/02/2006	09/03/2006	11/04/2006	03/05/2006	05/06/2006	13/07/2006	07/08/2006	08/09/2006	02/10/2006	06/11/2006	06/12/2006	09/01/2007	19/02/2007	06/03/2007	17/04/2007	15/05/2007	11/06/2007	17/07/2007	06/08/2007	10/09/2007	09/10/2007	16/11/2007	05/12/2007
Time of measurement	-	12:05	11:37	13:24	12:39	13:40	14:05	14:19	13:09	11:50	14:03	13:22	13:25	13:00	11:20	14:35	14:10	14:20	12:37	16:00	16:00	12:25	13:00	12:00	15:30
Methane	% vol	29.1	7.00	24.10	14.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0	19.1	20.3	18.7	9.1	6.7	28.3	29.3	26.6	28.2	32.3	36.2	23.4
Carbon Dioxide	% vol	16.2	3.90	13.50	7.9	0.0	0.0	0.0	0.0	0.4	0.0	0.6	0.1	16.4	15.4	16.1	7.1	6.6	18.9	18.1	17.7	19.4	22	20	16.1
Oxygen	% vol	4	16.50	4.90	11.2	20.7	20.6	20.7	20.6	20.2	20.6	20.3	20.7	5.6	4.8	3.9	12.6	14.2	1.2	0.9	1.2	0.8	0.5	0.6	5.7
Atmospheric Pressure	mbars	1006	997	985	986	996	1012	1013	1010	1015	992	1008	982	975	1002	975	1010	996	1005	996	1001	1012	1014	1012	975
Gas Pressure	mbars		No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	3	2.4	1.7	0.9	2.8	1.4	0.6	0.3	<0.1	<0.1	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr		No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	<0.1	-0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment		Valve missing	No cover/ No Cap	No cover/ No Cap	No cover/ No Cap	No cover/ No Cap	No cover/ No Cap	No cover/ No Cap	No cover/ No Cap	No tap / new cover	No Cap	No Cap	Cannot remove new plug / cap												



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T4**																								
Type Of Sample Required	None	09/01/08	04/02/08	05/03/08	22/04/08	19/05/08	10/06/08	16/07/08	18/08/08	22/09/08	27/10/08	25/11/08	16/12/08	27/01/09	23/02/09	18/03/09	30/04/09	29/05/09	17/06/09	30/07/09	25/08/09	22/09/09	28/10/09	26/11/09	17/12/09
Determinand	Units																								
Water Level																									
Water level to top of casing	m	10.94	10.96	DRY	10.73	10.85	10.91	DRY	DRY	DRY	DRY	10.87	10.36	10.28	9.92	10.35		DRY	10.42	DRY	DRY	DRY	10.93	DRY	DRY
Borehole depth to top of casing	m	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55		11.55	11.55	11.55	11.55	11.55	11.55	11.55	11.55
Casing Top relative to Ordnance Datum	m	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58		75.58	75.58	75.58	75.58	75.58	75.58	75.58	75.58
Water level relative to Ordnance Datum	m	64.64	64.62		64.85	64.73	64.67					64.71	65.22	65.30	65.66	65.23			65.16				64.65		
Calculated purge volume	litres	4.88	4.72		6.56	5.60	5.12					5.44	9.52	10.16	13.04	9.60									
Base of well (OD)		64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03		64.03	64.03	64.03	64.03	64.03	64.03	64.03	64.03
Gas Concentrations																									
Date monitored	-	09/01/2008	04/02/2008	05/03/2008	22/04/2008	19/05/2008	10/06/2008	16/07/2008	18/08/2008	22/09/2008	27/10/2008	25/11/2008	16/12/2008	27/01/2009	23/02/2009	18/03/2009	30/04/2009	29/05/2009	17/06/2009	30/07/2009	25/08/2009	22/09/2009	28/10/2009	26/11/2009	17/12/2009
Time of measurement	-	14:50	15:40	14:10				00:00	15:14	09:36	02:24	01:55	04:04	10:04	15:52	13:51	13:20	15:16	15:42	15:20	11:16	14:10	13:19	11:41	12:12
Methane	% vol	25.7	27.2	25.8	18.1	38	29.6	14.8	38.5	4.3	3.3	5.3	1.6	6.2	20.4	4.5	1	0.3	13	0.1	0.1	0	0.1	0	0
Carbon Dioxide	% vol	15.2	15	16.2	19	20.9	21.2	14.8	26	4.9	5.8	7.2	4.7	7.1	16.8	12.1	3.2	3.2	8.9	3.7	3.8	1	3.5	8.3	7.5
Oxygen	% vol	6.3	6.3	5.4	4.8	1	1.9	6.9	0.9	15.4	15.8	9.7	11.8	11.2	4.6	8.9	18.2	18.3	3.7	17.7	17.6	19.9	17.2	13	12.6
Atmospheric Pressure	mbars	980	1001	1005	1013	1009	1007	996	980	1012	996	1018	999	1007	1017	1021	1007	1021	996	999	992	997	1003	969	1012
Gas Pressure	mbars	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.19	0.07	0.19	0.12	0.03	0.06	0.19	5.76	0.5	0.03	0.04	0.25	-0.7	-0.05
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-2.3	-2.6	-2.5	-2.9	-2.9	-1.6	<0.1	4.2	<0.1	<0.1	-0.7	-2.7	-3.9	-2.7
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment																									

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

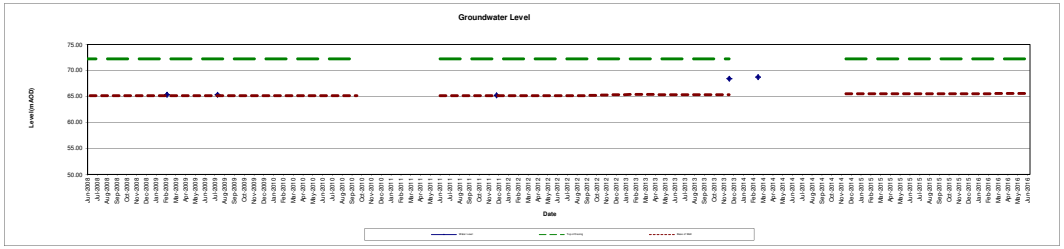
Sampling Location	**T4**					(Sept mon)	(Dec Mon)	(March Mon)																					
Type Of Sample Required	None	28/01/10	16/02/10	10/03/10	02/06/10	06/10/10	25/01/11	01/04/11	22/06/11	06/09/11	14/12/11	06/03/12	07/06/12	07/09/12	13/12/12	14/03/13	11/06/13	05/09/13	13/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14
Determinand	Units																												
Water Level																													
Water level to top of casing	m	DRY	DRY	10.97	Dry	Dry			Dry	Dry	Dry		Dry	Dry	Dry	Dry	Dry	Dry	Dry			Dry			Dry			Dry
Borehole depth to top of casing	m	11.55	11.55	11.05	11.07	11.07			11.44	11.10	11.12		11.08	11.08	11.06	11.08	11.07	11.08	11.09			11.08			11.07			11.12
Casing Top relative to Ordnance Datum	m	75.58	75.58	75.58	75.58	75.58			75.58	75.58	75.58		75.58	75.58	75.58	75.58	75.58	75.58	75.58			75.58			75.58			75.58
Water level relative to Ordnance Datum	m			64.61																									
Calculated purge volume	litres																												
Base of well (OD)		64.03	64.03	64.03	64.51	64.03			64.03	64.48	64.46		64.50		64.52	64.50	64.51	64.50	64.49			64.50			64.51			64.46
Gas Concentrations																													
Date monitored	-	28/01/2010		10/03/2010	02/06/2010	06/10/2010	25/01/2011	01/04/2011	22/06/2011	06/09/11	14/12/12	06/03/12	07/06/2012	07/09/12	13/12/12	14/03/13	11/06/13	05/09/13	13/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14
Time of measurement	-	06:43		08:40	12:37	16:55		18:20	14:53	13:37	10:14	14:21	12:59	12:18	11:04	13:37	11:14	13:02	12:18	12:18	11:10	11:30	11:33	12:25	12:56	12:43	11:32	11:41
Methane	% vol	0		6.4	0.1	0.5	<0.1	<0.1	9.4	13.1	5.9	1.7	0.7	0.3	0.2	2.6	0.3	<0.1	0.2	<0.1	<0.1	0.1	0.4	<0.1	0.4	2.4	3.5	0.5
Carbon Dioxide	% vol	6.6		15.9	0.5	0.8	0.5	<0.1	18.3	18.7	7.2	7.3	1.0	2.3	0.1	4.4	3.6	<0.1	0.5	0.1	0.1	<0.1	2.1	0.4	2.4	4.5	7.5	0.5
Oxygen	% vol	13.4		0.4	19.9	18.7	19.7	19.9	0.6	0.3	12.6	11.3	19.6	17.3	21.2	16.7	16.4	21	20.3	20.9	21.2	21	18.4	20.1	17.2	15.2	12.9	19.7
Atmospheric Pressure	mbars	1010		1022	1009	987	1008	999	999	976	968	1009	992	1008	1000	1000	1005	1005	1000	989	974	1007	1000	994	1004	1002	1001	1013
Gas Pressure	mbars	0.02		-0.02	0.03	-0.03	0.19	0.17	0.00	<0.01	<0.1	0.03	-0.23	-0.07	-0.11	<0.01	0.19	0.07	-0.09	0.03	-0.03	-0.11	-0.02	0.07	-0.12	-0.23	<0.01	-0.16
Gas Flow Rate	l/hr	0		-1.6	+/-0.1	-0.2	+/-0.1	0.1	<0.1	<0.1	-0.2	0.1	<0.1	0.1	<0.1	0.2	<0.1	<0.1	-0.1	0.1	<0.1	<0.1	0.2	0.1	<0.1	<0.1	<0.1	0.2
Insitu Liquid Determinations																													
pH	pH units																												
Electrical Conductivity	µS/cm																												
Dissolved Oxygen	mg/l																												
Temperature	℃																												
Comment							Could not remove bung to dip	Could not remove bung to dip				Bung could not be removed	Padlock removed - key did not fit.																

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T4**						
Type Of Sample Required	None	09/10/14	04/11/14	10/12/14	17/06/15	14/12/15	24/06/16
Determinand	Units						
Water Level							
Water level to top of casing	m			Dry	Dry	Dry	Dry
Borehole depth to top of casing	m			11.08	11.16	11.05	11.12
Casing Top relative to Ordnance Datum	m			75.58	75.58	75.58	75.58
Water level relative to Ordnance Datum	m						
Calculated purge volume	litres						
Base of well (OD)				64.50	64.42	64.53	64.46
Gas Concentrations							
Date monitored	-	09/10/14	04/11/14	10/12/14	17/06/15	14/12/15	24/06/16
Time of measurement	-	11:48	13:03	11:31	10:09	12:02	13:57
Methane	% vol	<0.1	<0.1	14.2	<0.1	3.5	2.1
Carbon Dioxide	% vol	0.8	0.1	11.7	0.1	2.9	2.2
Oxygen	% vol	19.7	21.4	11.5	19.8	19	18.5
Atmospheric Pressure	mbars	983	986	983	1002	1009	1006
Gas Pressure	mbars	-0.07	-0.02	-0.07	0.09	-0.05	0.07
Gas Flow Rate	l/hr	0.3	0.3	0.1	<0.1	<0.1	0.4
Insitu Liquid Determinations							
pH	pH units						
Electrical Conductivity	µS/cm						
Dissolved Oxygen	mg/l						
Temperature	℃						
Comment							

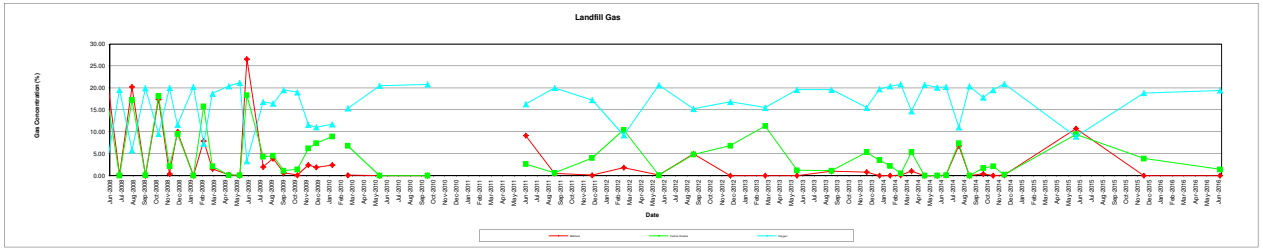
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T5**																		
Type Of Sample Required	None	21/06/04	04/08/04	23/08/04	23/09/04	28/10/04	17/11/04	14/12/04	25/01/05	09/03/05	18/04/05	14/05/05	29/06/05	20/07/05	14/08/05	14/09/05	01/11/05	18/11/05	06/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	7.00	7.00	7.01	7.03	7.03	Dry	6.84	6.85	7.00	5.56	5.62	5.20	6.49	Dry	6.88	6.96	6.98	6.97
Borehole depth to top of casing	m	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10
Casing Top relative to Ordnance Datum	m	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20
Water level relative to Ordnance Datum	m	65.20	65.20	65.19	65.17	65.17	65.15	65.36	65.35	65.20	66.64	66.58	67.00	65.71		65.32	65.24	65.22	65.23
Calculated purge volume	litres																		
Base of well (OD)		65.10	65.10	65.10	65.10	65.10	65.10	65.10	65.10	65.10	65.10	65.10	65.10	65.10	65.10	65.10	65.10	65.10	65.10
Gas Concentrations																			
Date monitored	-	21/06/04	04/08/04	23/08/04	23/09/04	28/10/2004	17/11/2004	14/12/2004	25/01/2005	09/03/2005	18/04/2005	14/05/2005	29/06/2005	20/07/2005	14/08/2005	14/09/2005	01/11/2005	18/11/2005	06/12/2005
Time of measurement	-		15:00	1410hrs	13:20	14:15	11:15	09:45	13:40	09:50	9.50am	10.40	2.00	11.00	11.15	07:00	13:22	13:49	11:18
Methane	% vol	15.80	<0.1	24.2	0.2	0.3	27.2	3.3	2.9	0.2	0.1	2.1	1.1	1.3	0.1	19.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	8.2	<0.1	13.7	<0.1	<0.1	18.5	2.3	2.6	0.1	0.1	1.4	2.1	1.1	0.1	11.2	<0.1	<0.1	<0.1
Oxygen	% vol	11.7	22.3	8.5	20.5	20.4	0.4	18.8	18.4	18.7	18.4	17.6	16.4	14.9	14.6	19.5	20.4	20.3	20.4
Atmospheric Pressure	mbars	1002	1008	997	1004	1007	992	991	992	1019	1010	1011	995	1015	1016	1005	991	1018	999
Gas Pressure	mbars	0.0	5.2	0.3	2.4	2.5	0.3	<0.1	<0.1	n/a	<0.1	<0.1	0.1	1.1	<0.1	0.1			
Gas Flow Rate	l/hr	0.4		2.5	2.7	2.6	3.3	0.6	0.5	n/a	1	0.4	0.1	0.1	0.4	0.2			
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment										No Valve							Valve missing	Valve missing	Valve missing



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T5**																								
Type Of Sample Required	None	09/01/06	08/02/06	09/03/06	11/04/06	03/05/06	05/06/06	13/07/06	07/08/06	08/09/06	02/10/06	06/11/06	06/12/06	09/01/07	19/02/07	06/03/07	17/04/07	15/05/07	11/06/07	17/07/07	06/08/07	10/09/07	09/10/07	16/11/07	05/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	Dry	DRY	6.99	7.00	DRY	DRY	DRY	DRY	DRY	DRY	6.99		DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	6.95
Borehole depth to top of casing	m	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10		7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10
Casing Top relative to Ordnance Datum	m	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20		72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20
Water level relative to Ordnance Datum	m			65.21	65.20							65.21													65.25
Calculated purge volume	litres																								
Base of well (OD)		65.10	65.10	65.10	65.10	65.10	65.10	65.10	65.10	65.10	65.10	65.10		65.10	65.10	65.10	65.10	65.10	65.10	65.10	65.10	65.10	65.10	65.10	65.10
Gas Concentrations																									
Date monitored	-	09/01/2006	08/02/2006	09/03/2006	11/04/2006	03/05/2006	05/06/2006	13/07/2006	07/08/2006	08/09/2006	02/10/2006	06/11/2006	06/12/2006	09/01/2007	19/02/2007	06/03/2007	17/04/2007	15/05/2007	11/06/2007	17/07/2007	06/08/2007	10/09/2007	09/10/2007	16/11/2007	05/12/2007
Time of measurement	-	12:00	11:34	13:19	12:00	13:35	14:10	14:23	13:13	11:58	13:57	13:27	13:35	13:15	11:30	14:45	14:05	14:10	12:50	15:50	15:45	12:15	13:10	12:18	15:40
Methane	% vol	5.2	0.00	5.90	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	22.7	21.5	22	12.4	11.2	24.8	22.8	20.6	22	24.2	25.4	26.9
Carbon Dioxide	% vol	9.1	0.00	6.20	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	19.3	18.6	17.2	12.2	11.9	16.5	17.3	12.9	15.2	17	19.3	19.3
Oxygen	% vol	6.6	20.50	10.60	19.8	20.8	20.6	20.7	20.6	20.4	20.6	21.0	20.7	0.7	1.2	2.3	6.8	7.2	0.8	0.5	0.9	0.7	0.4	0.8	0.5
Atmospheric Pressure	mbars	1006	997	985	986	996	1012	1014	1011	1016	993	1008	982	976	1002	975	1012	998	1005	996	1001	1012	1014	1012	975
Gas Pressure	mbars		No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	1.8	0.9	0.4	0.5	0.2	<0.1	0.6	0.4	<0.1	<0.1	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr		No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	0.1	-0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment		Valve missing	No cover/ No Cap	No cover/ No Cap	No cover/ No Cap	No cover/ No Cap	No cover/ No Cap	No cover/ No Cap	No cover/ No Cap	No tap / new cover	No Cap	No Cap	Cannot remove new plug / cap												



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T5**																								
Type Of Sample Required	None	09/01/08	04/02/08	05/03/08	22/04/08	19/05/08	10/06/08	16/07/08	18/08/08	22/09/08	27/10/08	25/11/08	16/12/08	27/01/09	23/02/09	18/03/09	30/04/09	29/05/09	17/06/09	30/07/09	25/08/09	22/09/09	28/10/09	26/11/09	17/12/09
Determinand	Units																								
Water Level																									
Water level to top of casing	m	6.93	6.94	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	6.88	DRY	DRY	DRY	DRY	6.85	DRY	DRY	DRY	DRY	DRY
Borehole depth to top of casing	m	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10	7.10
Casing Top relative to Ordnance Datum	m	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20
Water level relative to Ordnance Datum	m	65.27	65.26												65.32					65.35					
Calculated purge volume	litres														1.76					2.00					
Base of well (OD)		65.10	65.10	65.10	65.10	65.10	65.10	65.10	65.10	65.10	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1
Gas Concentrations																									
Date monitored	-	09/01/2008	04/02/2008	05/03/2008	22/04/2008	19/05/2008	10/06/2008	16/07/2008	18/08/2008	22/09/2008	27/10/2008	25/11/2008	16/12/2008	27/01/2009	23/02/2009	18/03/2009	30/04/2009	29/05/2009	17/06/2009	30/07/2009	25/08/2009	22/09/2009	28/10/2009	26/11/2009	17/12/2009
Time of measurement	-	15:00	15:50	14:00				00:00	15:20	11:02	03:50	03:21	05:31	11:16	15:46	13:55	13:30	15:11	15:49	15:31	15:00	14:18	06:57	12:06	12:34
Methane	% vol	25.9	27.5	24.9	0	0.2	24.6	0.2	20.2	0	17.4	0.4	10	0	7.9	1.5	0.2	0	26.6	2	3.9	0.6	0.1	2.4	1.9
Carbon Dioxide	% vol	16.7	20.5	17.3	0.8	0.1	19.4	0	17.2	0.1	18.1	2.1	9.5	0	15.8	2.1	0.1	0.1	18.3	4.3	4.5	1.1	1.4	6.2	7.4
Oxygen	% vol	1.8	0.4	0.6	19.8	20.7	0.9	19.6	5.8	19.9	9.5	20	11.6	20.2	7.3	18.7	20.4	21.2	3.3	16.8	16.4	19.5	19	11.6	11
Atmospheric Pressure	mbars	980	1001	1005	1013	1009	1007	996	980	1012	996	1018	999	1006	1017	1021	1007	1022	997	999	992	997	1003	969	1012
Gas Pressure	mbars	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.2	<0.1	<0.1	<0.1	0.07	-0.48	0	-0.45	-0.03	-0.01	1.41	0.15	0.02	0.04	0.07	0.05	0.07	0.04
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.2	<0.1	0.2	0.1	<0.1	0.1	<0.1	<0.1	<0.1	-2.6	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment																									

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

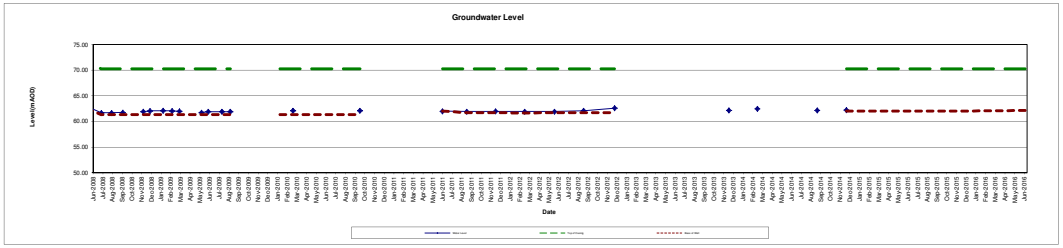
Sampling Location	**T5**					(Sep Mon)	(Dec Mon)	(March Mon)																				
Type Of Sample Required	None	28/01/10	16/02/10	10/03/10	02/06/10	06/10/10	25/01/11	01/04/11	22/06/11	06/09/11	14/12/11	06/03/12	07/06/12	06/09/12	12/12/12	14/03/13	06/06/13	05/09/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	03/09/14
Determinand	Units																											
Water Level																												
Water level to top of casing	m	DRY	DRY	DRY	Dry	Dry			Dry	Dry	6.98	Dry	Dry	Dry	Dry	Dry	Dry	Dry	3.76			3.5			Dry			Dry
Borehole depth to top of casing	m	7.10	7.10	6.99	6.96	6.96			6.90	6.96	7.03	7.00	6.95	6.93	6.90	6.85	6.89	6.89	6.88			6.84			6.79			6.81
Casing Top relative to Ordnance Datum	m	72.20	72.20	72.20	72.20	72.20			72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20	72.20			72.20			72.20			72.20
Water level relative to Ordnance Datum	m										65.22								68.44			68.70						
Calculated purge volume	litres																											
Base of well (OD)		65.1	65.1	65.1	65.1	65.1			65.1	65.1	65.1	65.1	65.1	65.1	65.30	65.35	65.31	65.31	65.32			65.36			65.41			65.39
Gas Concentrations																												
Date monitored	-	28/01/2010		10/03/2010	02/06/2010	06/10/2010			22/06/2011	06/09/11	14/12/12	06/03/12	07/06/2012	06/09/12	12/12/12	14/03/13	06/06/13	05/09/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	03/09/14
Time of measurement	-	08:38		09:45	13:12	17:08			15:47	13:44	10:25	14:06	13:09	16:15	13:12	13:20	12:13	12:55	13:52	12:12	11:05	11:23	11:28	12:19	12:49	12:37	11:47	12:44
Methane	% vol	2.4		0.1	<0.1	<0.1			9.1	0.5	0.1	1.8	0.1	4.9	<0.1	<0.1	<0.1	1	0.8	<0.1	<0.1	0.1	1	<0.1	<0.1	0.1	6.8	<0.1
Carbon Dioxide	% vol	8.9		6.8	<0.1	<0.1			2.6	0.6	4.0	10.4	0.1	4.8	6.8	11.3	1.2	1.1	5.3	3.5	2.2	0.5	5.3	<0.1	<0.1	0.1	7.4	<0.1
Oxygen	% vol	11.7		15.3	20.5	20.8			16.3	20.0	17.2	9.2	20.6	15.2	16.8	15.5	19.6	19.6	15.5	19.7	20.4	20.8	14.7	20.7	20.1	20.2	11	20.4
Atmospheric Pressure	mbars	1010		1023	1009	987			999	977	968	1010	992	1005	1007	1001	1017	1005	1020	990	975	1007	1000	994	1005	1002	1000	1016
Gas Pressure	mbars	0.06		-0.06	+/-0.01	-0.03			0.00	0.01	-0.16	<0.01	-0.27	<0.01	-0.12	0.02	0.03	0.08	0.08	0.1	-0.1	-0.09	-0.1	0.02	-0.17	-0.17	-0.12	-0.11
Gas Flow Rate	l/hr	0		+/-0.1	+/-0.1	+/-0.1			-1.3	0.1	0.2	<0.1	0.1	0.1	0.2	0.1	<0.1	<0.1	0.1	0.1	0.2	<0.1	0.2	0.2	0.1	<0.1	-0.1	0.1
Insitu Liquid Determinations																												
pH	pH units																											
Electrical Conductivity	µS/cm																											
Dissolved Oxygen	mg/l																											
Temperature	℃																											
Comment							Cover seized / unable to monitor	Cover seized / unable to monitor		Borehole dry			Padlock removed - key did not fit. Borehole dry.																

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T5**						
Type Of Sample Required	None	09/10/14	04/11/14	04/12/14	11/06/15	07/12/15	24/06/16
Determinand	Units						
Water Level							
Water level to top of casing	m			Dry	Dry	Dry	Dry
Borehole depth to top of casing	m			6.69	6.71	6.70	6.64
Casing Top relative to Ordnance Datum	m			72.20	72.20	72.20	72.20
Water level relative to Ordnance Datum	m						
Calculated purge volume	litres						
Base of well (OD)				65.51	65.49	65.50	65.56
Gas Concentrations							
Date monitored	-	09/10/14	04/11/14	04/12/14	11/06/15	07/12/15	24/06/16
Time of measurement	-	12:01	12:57	10:45	13:14	11:24	13:47
Methane	% vol	0.4	<0.1	0.1	10.7	<0.1	<0.1
Carbon Dioxide	% vol	1.7	2.1	0.2	9.4	3.9	1.4
Oxygen	% vol	17.8	19.5	20.9	8.9	18.8	19.4
Atmospheric Pressure	mbars	983	986	1010	1012	1013	1006
Gas Pressure	mbars	-0.07	-0.21	0.01	-0.11	0.03	0.09
Gas Flow Rate	l/hr	0.2	0.1	-0.1	0.1	-0.1	0.4
Insitu Liquid Determinations							
pH	pH units						
Electrical Conductivity	µS/cm						
Dissolved Oxygen	mg/l						
Temperature	℃						
Comment							

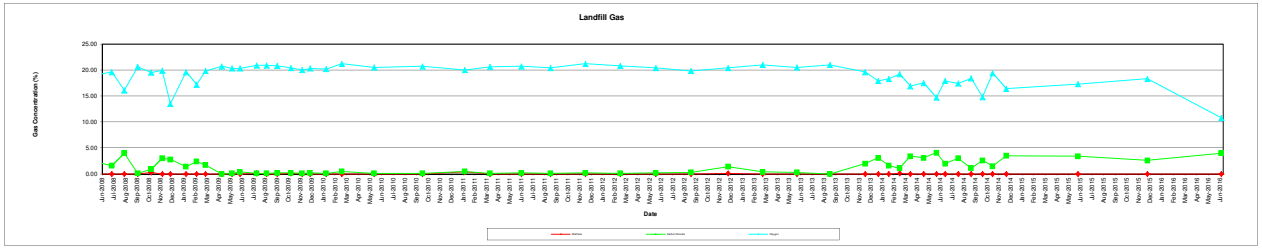
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T6																		
Type Of Sample Required	Groundwater	21/06/04	04/08/04	23/08/04	23/09/04	28/10/04	17/11/04	14/12/04	25/01/05	09/03/05	18/04/05	14/05/05	29/06/05	20/07/05	14/08/05	14/09/05	01/11/05	18/11/05	06/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	8.58	8.50	8.64	8.65	8.63	8.64	8.55	8.54	8.55	9.80	6.51	6.36	8.29	Dry	8.46	8.59	8.61	Dry
Borehole depth to top of casing	m	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91
Casing Top relative to Ordnance Datum	m	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24
Water level relative to Ordnance Datum	m	61.66	61.74	61.60	61.59	61.61	61.60	61.69	61.70	61.69	60.44	63.73	63.88	61.95		61.78	61.65	61.63	
Calculated purge volume	litres	7.92																	
Base of well (OD)		61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33
Gas Concentrations																			
Date monitored	-	21/06/04	04/08/04	23/08/04	23/09/04	28/10/2004	17/11/2004	14/12/2004	25/01/2005	09/03/2005	18/04/2005	14/05/2005	29/06/2005	20/07/2005	14/08/2005	14/09/2005	01/11/2005	18/11/2005	06/12/2005
Time of measurement	-		14:32	1415hrs	13:30	14:20	11:20	09:50	13:50	09:55	10.20am	11.55	4.00	11.24	11.45	13:20	13:25	13:41	11:10
Methane	% vol	<0.1	<0.1	0.2	0.2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.1	1.1	0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	7.7	1.3	<0.1	0.1	5.5	<0.1	0.1	<0.1	1.1	0.1	0.1	0.1	0.1	<0.1	<0.1	0.6	1
Oxygen	% vol	20.7	20.7	18.4	20.6	20.6	8.6	21	20.9	21	12.6	21.1	19.1	17.4	17.4	16.4	20.4	19.9	18.1
Atmospheric Pressure	mbars	1002	1008	997	1004	1007	992	991	991	1020	1010	1010	995	1016	1016	1005	991	1018	1000
Gas Pressure	mbars	0.0	9.3	<0.1	2.7	2.4	0.3	0.6	0.5	0.1	0.2	0.5	<0.1	1.2	0.1	0.2	0	0	0
Gas Flow Rate	l/hr	<0.1		2.4	2.6	2.5	3.3	0.2	0.2	1.8	1.1	0.2	<0.1	1.1	0.1	1.1	<0.1	1.1	<0.1
Insitu Liquid Determinations																			
pH	pH units										6.75	7.1	5.2						
Electrical Conductivity	µS/cm										4450	5500	1170						
Dissolved Oxygen	mg/l										18.3	1.6	11.1						
Temperature	ºC										9.4	10	10						
Comment		Insufficient sample			Insufficient Sample			Insufficient to Sample		Insufficent to Sample						Insufficient to Sample	Valve missing	Valve missing	



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T6																								
Type Of Sample Required	Groundwater	09/01/06	08/02/06	09/03/06	11/04/06	03/05/06	05/06/06	13/07/06	07/08/06	08/09/06	02/10/06	06/11/06	06/12/06	09/01/07	19/02/07	07/03/07	17/04/07	15/05/07	11/06/07	17/07/07	06/08/07	10/09/07	09/10/07	16/11/07	05/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	8.41	8.55	7.85	8.12	8.53	8.56	8.62	8.61	DRY	DRY	8.57	8.43	8.48	8.45	7.98	8.56	8.59	8.56	7.96	7.96	8.57	8.54	DRY	8.29
Borehole depth to top of casing	m	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91
Casing Top relative to Ordnance Datum	m	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24
Water level relative to Ordnance Datum	m	61.83	61.69	62.39	62.12	61.71	61.68	61.62	61.63			61.67	61.81	61.76	61.79	62.26	61.68	61.65	61.68	62.28	62.28	61.67	61.70		61.95
Calculated purge volume	litres						0.00	N/A	N/A	0.00	N/A	N/A	0.00	N/A	N/A	0.00	0.00	N/A	0.00	N/A	N/A	N/A	N/A	N/A	N/A
Base of well (OD)		61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33
Gas Concentrations																									
Date monitored	-	09/01/2006	08/02/2006	09/03/2006	11/04/2006	03/05/2006	05/06/2006	13/07/2006	07/08/2006	08/09/2006	02/10/2006	06/11/2006	06/12/2006	09/01/2007	19/02/2007	07/03/2007	17/04/2007	15/05/2007	11/06/2007	17/07/2007	06/08/2007	10/09/2007	09/10/2007	16/11/2007	05/12/2007
Time of measurement	-	11:55	11:26	13:11	12:28	13:25	14:20	14:30	13:20	12:04	13:50	13:35	13:45	13:25	11:40	12:05	13:55	14:00	13:08	15:40	15:35	12:05	13:20	12:28	15:50
Methane	% vol	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0.2	0	0	0	0.2	0.1	22	0	0	0
Carbon Dioxide	% vol	3.6	1.40	0.90	3.4	0.7	1.7	0.5	0.9	0.6	1.1	0.9	2.3	0.1	1.1	1.4	1	0	0.8	4.2	3.3	15.2	2.3	2.6	0.1
Oxygen	% vol	15.4	18.20	15.00	12.9	20.3	19.6	20.0	19.9	20.1	19.8	19.9	18.8	20.7	19.3	16.1	19.7	20.5	20.1	11.4	16.4	0.7	18.7	18.3	20.9
Atmospheric Pressure	mbars	1007	997	985	986	996	1012	1014	1011	1015	992	1007	982	976	1002	988	1012	998	1005	996	1001	1012	1014	1012	975
Gas Pressure	mbars	0	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6.1	<0.1	0.5	2.3	5.8	3.8	1.8	2.8	<0.1	<0.1	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units			6.75																					
Electrical Conductivity	µS/cm			3710																					
Dissolved Oxygen	mg/l			9.24																					
Temperature	℃			8.4																					
Comment								Cannot Add Bolt Standpipe To High	Cannot Add Bolt Standpipe To High	No Lock Standpipe to High	No Lock Standpipe to High	No Lock Standpipe to High	Insufficent to Sample			Insufficient water to purge	Insufficient water to purge		Insufficient water to purge			Insufficient water to purge	Insufficient water to purge	Insufficient water to purge	Insufficient water to purge



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T6**																								
Type Of Sample Required	Groundwater	09/01/08	04/02/08	05/03/08	22/04/08	19/05/08	10/06/08	16/07/08	18/08/08	22/09/08	27/10/08	25/11/08	16/12/08	26/01/09	23/02/09	18/03/09	30/04/09	27/05/09	17/06/09	30/07/09	25/08/09	22/09/09	28/10/09	26/11/09	17/12/09
Determinand	Units																								
Water Level																									
Water level to top of casing	m	8.28	8.25	8.55	8.30	8.49	8.57	8.57	8.56	8.49	DRY	8.34	8.19	8.15	8.18	8.29	DRY	8.50	8.33	8.33	8.34				
Borehole depth to top of casing	m	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91	8.91				
Casing Top relative to Ordnance Datum	m	70.24	70.24	70.24	70.24	70.24	71.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24	70.24				
Water level relative to Ordnance Datum	m	61.96	61.99	61.69	61.94	61.75	62.67	61.67	61.68	61.75		61.90	62.05	62.09	62.06	61.95		61.74	61.91	61.91	61.90				
Calculated purge volume	litres	5	5	3	5	3	3	3	3	3		4.56	5.76	6.08	5.84	4.96		3.28	4.64	4.64	4.56				
Base of well (OD)		61.33	61.33	61.33	61.33	61.33	62.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33	61.33				
Gas Concentrations																									
Date monitored	-	09/01/2008	04/02/2008	05/03/2008	22/04/2008	19/05/2008	10/06/2008	16/07/2008	18/08/2008	22/09/2008	27/10/2008	25/11/2008	16/12/2008	26/01/2009	23/02/2009	18/03/2009	30/04/2009	27/05/2009	17/06/2009	30/07/2009	25/08/2009	22/09/2009	28/10/2009	26/11/2009	17/12/2009
Time of measurement	-	15:10	16:00	13:50				00:00	15:07	07:40	05:02	05:02	06:43	11:31	15:38	13:43	13:10	16:36	16:09	10:19	14:28	13:58	13:00	06:14	11:56
Methane	% vol	0	0	0	0	0	0	0	0	0	0.3	0	0	0	0	0	0	0	0	0.1	0	0	0.1	0	0
Carbon Dioxide	% vol	0.3	0.1	4.8	2.8	1.7	2.2	1.6	4	0.1	0.9	3	2.8	1.4	2.4	1.7	0	0.1	0.4	0.1	0.1	0.2	0.2	0.1	0.2
Oxygen	% vol	20.7	20.7	11.8	18	20.6	19.1	19.6	16.1	20.6	19.5	19.9	13.5	19.6	17.2	19.8	20.7	20.3	20.3	20.9	20.9	20.8	20.4	20	20.3
Atmospheric Pressure	mbars	980	1001	1005	1013	1009	1007	997	981	1013	996	1018	999	1001	1017	1022	1008	1000	997	1000	993	997	1004	970	1013
Gas Pressure	mbars	<0.1	<0.1	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	0.43	0.24	-0.01	0	0	-0.07	-0.05	-0.01	-0.01	0.06	-0.02	0	0.06	0.05
Gas Flow Rate	l/hr	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	-0.3	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units													6.87											
Electrical Conductivity	µS/cm													537											
Dissolved Oxygen	mg/l													6.3											
Temperature	℃													6.97											
Comment		Insufficient water to purge	Insufficient water to purge	Insufficient water to purge	Insufficient water to purge	Insufficient water to purge	Insufficient water to purge	Insufficient water to purge					Insufficient water to purge									Blocked	Blocked	Blocked	Blocked

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

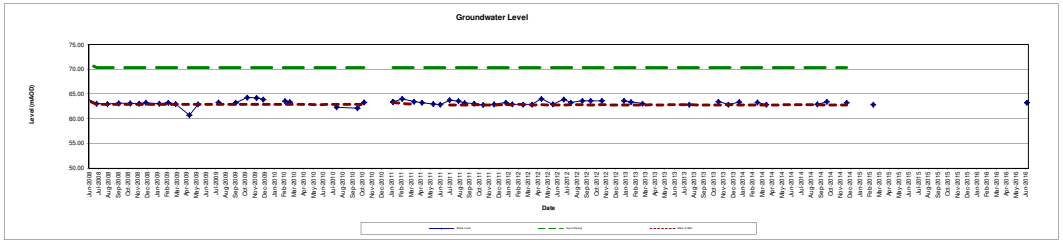
Sampling Location	**T6**				(Sept mon)	(Dec Mon)	(March Mon)																						
Type Of Sample Required	Groundwater	28/01/10	10/03/10	02/06/10	06/10/10	25/01/11	01/04/11	22/06/11	06/09/11	06/12/11	06/03/12	07/06/12	07/09/12	13/12/12	14/03/13	11/06/13	05/09/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14
Determinand	Units																												
Water Level																													
Water level to top of casing	m	Dry	8.13	Dry	8.15			8.25	8.30	8.29	8.30	8.32	8.16	7.65				8.06			7.78			Dry			8.09	
Borehole depth to top of casing	m	8.91	8.62	1.11	8.55			8.55	8.55	8.55	8.62	8.57	8.54	8.51				8.17			8.2			8.2			8.19	
Casing Top relative to Ordnance Datum	m	70.24	70.24	70.24	70.24			70.24	70.24	70.24	70.24	70.24	70.24	70.24				70.24			70.24			70.24			70.24	
Water level relative to Ordnance Datum	m		62.11		62.09			61.99	61.94	61.95	61.94	61.92	62.08	62.59				62.18			62.46						62.15	
Calculated purge volume	litres																												
Base of well (OD)		61.33	61.33	61.33	61.33			61.99	61.69	61.69	61.62	61.67	61.70	61.73				62.07			62.04			62.04			62.05	
Gas Concentrations																													
Date monitored	-	28/01/2010	10/03/2010	02/06/2010	06/10/2010	25/01/2011	01/04/2011	22/06/2011	06/09/11	06/12/12	06/03/12	07/06/2012	07/09/12	13/12/12	14/03/13	11/06/13	05/09/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14
Time of measurement	-	04:33	10:05	12:49	16:35		17:58	15:06	13:20	11:13	11:25	12:45	12:04	10:55	13:09	11:48	12:35	14:02	11:53	11:01	10:59	11:12	12:05	12:42	12:20	11:04	11:17	11:31
Methane	% vol	0	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.1	0.5	0.1	0.1	0.5	0.1	0.2	0.1	0.2	0.1	0.2	0.3	1.4	0.4	0.3	<0.1	2	3.1	1.6	1.1	3.4	3.1	4.1	2	3	1.1	2.6
Oxygen	% vol	20.2	21.2	20.5	20.7	20.0	20.6	20.7	20.4	21.2	20.8	20.4	19.8	20.4	21	20.5	21	19.6	17.9	18.3	19.2	16.9	17.5	14.7	17.9	17.4	18.4	14.8
Atmospheric Pressure	mbars	1010	1023	1009	987	1007	999	999	977	992	1014	992	1009	1000	1001	1006	1005	1020	990	974	1007	1000	994	1005	1003	1002	1014	983
Gas Pressure	mbars	0.04	-0.03	-0.05	+/-0.01	0.06	0.16	0.00	0.01	<0.1	0.15	-0.23	-0.05	-0.13	-0.12	0.07	0.1	0.1	0.03	0.1	-0.12	-0.03	0.07	-0.09	-0.11	-0.05	-0.09	-0.04
Gas Flow Rate	l/hr	0	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.1	<0.1	<0.1	-0.2	<0.1	<0.1	0.1	<0.1	0.2	0.1	<0.1	0.1	0.2	0.1	-0.1	0.1	0.2	0.2	<0.1	<0.1	0.1	0.2
Insitu Liquid Determinations																													
pH	pH units																												
Electrical Conductivity	µS/cm																												
Dissolved Oxygen	mg/l																												
Temperature	ºC																												
Comment				Borehole blocked with clay at 1.11m		Could not remove bung to dip	Could not remove bung to dip					Padlock removed - key did not fit		Inside casing broken	Blocked by clay	inner casing broken requires attention, clay blocking pipe	Sample pipe has been repaired since sampling. Casing broken requires re-boring, no levels.												

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T6**					
Type Of Sample Required	Groundwater	04/11/14	10/12/14	15/06/15	14/12/15	24/06/16
Determinand	Units					
Water Level						
Water level to top of casing	m		8	Dry	Dry	Dry
Borehole depth to top of casing	m		8.21	8.2	8.20	8.09
Casing Top relative to Ordnance Datum	m		70.24	70.24	70.24	70.24
Water level relative to Ordnance Datum	m		62.24			
Calculated purge volume	litres					
Base of well (OD)			62.03	62.04	62.04	62.15
Gas Concentrations						
Date monitored	-	04/11/14	10/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	12:40	11:14	13:46	11:42	12:58
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	1.5	3.5	3.4	2.6	4
Oxygen	% vol	19.4	16.4	17.3	18.3	10.8
Atmospheric Pressure	mbars	986	983	1015	1009	1006
Gas Pressure	mbars	0.17	-0.14	0.03	-0.05	0.12
Gas Flow Rate	l/hr	0.2	0.2	<0.1	<0.1	0.3
Insitu Liquid Determinations						
pH	pH units					
Electrical Conductivity	µS/cm					
Dissolved Oxygen	mg/l					
Temperature	ºC					
Comment						

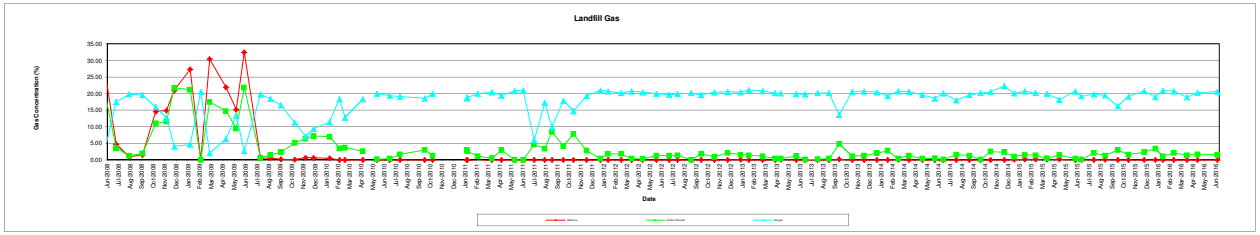
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T7																		
Type Of Sample Required	None	21/06/04	04/08/04	23/08/04	23/09/04	28/10/04	17/11/04	14/12/04	25/01/05	09/03/05	18/04/05	14/05/05	30/06/05	20/07/05	14/08/05	13/09/05	01/11/05	18/11/05	06/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	7.47	7.41	Dry	Dry	Dry	Dry	7.02	7.04	6.94	7.50	7.03	6.59	4.21	Dry	7.16	7.41	Dry	7.44
Borehole depth to top of casing	m	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44
Casing Top relative to Ordnance Datum	m	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33
Water level relative to Ordnance Datum	m	62.86	62.92	62.85	62.85	62.85	62.85	63.31	63.29	63.39	62.83	63.30	63.74	66.12		63.17	62.92		62.89
Calculated purge volume	litres																		
Base of well (OD)		62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89
Gas Concentrations																			
Date monitored	-	21/06/04	04/08/04	23/08/04	23/09/04	28/10/2004	17/11/2004	14/12/2004	25/01/2005	09/03/2005	18/04/2005	14/05/2005	30/06/2005	20/07/2005	14/08/2005	13/09/2005	01/11/2005	18/11/2005	06/12/2005
Time of measurement	-		14:30	1420hrs	13:40	14:25	11:30	10:00	14:00	10:00	10.50am	1.20	8.50	12.01	12.15	15:05	13:35	13:34	11:00
Methane	% vol	19.10	0.5	0.2	0.2	0.2	<0.1	<0.1	<0.1	<0.1	1.1	1.1	<0.1	1.2	0.1	<0.1	21.7	24.0	21.8
Carbon Dioxide	% vol	12.1	0.2	<0.1	0.1	0.1	0.3	<0.1	<0.1	<0.1	2.3	1.3	<0.1	1.1	<0.1	<0.1	23.1	22.7	22.1
Oxygen	% vol	10.6	20.5	20.3	20.5	20.4	20.2	21.1	20.9	21	11.1	19.6	20.1	18.6	16.4	21	<0.1	<0.1	<0.1
Atmospheric Pressure	mbars	1002	1008	997		1007	992	991	991	1019	1010	1010	995	1015	1015	1001	991	1018	1000
Gas Pressure	mbars	0.0	11.4	<0.1	2.5	2.5	0.2	0.1	0.2	<0.1	0.1	0.1	1.1	0.1	<0.1	0.1	0.1	0	0
Gas Flow Rate	l/hr	0.3		2.5	2.6	2.6	3.4	1.4	1.3	1.9	1.1	1.2	0.1	0.1	<0.1	1.1	0.3	<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment															No Number?				



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T7																									
Type Of Sample Required	None	09/01/06	08/02/06	09/03/06	11/04/06	03/05/06	05/06/06	13/07/06	07/08/06	08/09/06	02/10/06	06/11/06	06/12/06	09/01/07	19/02/07	06/03/07	17/04/07	15/05/07	11/06/07	17/07/07	06/08/07	10/09/07	09/10/07	16/11/07	05/12/07
Determinand	Units																									
Water Level																										
Water level to top of casing	m	Dry	7.38	7.37	7.32	7.39	7.40	7.42	7.93	DRY	7.45	DRY	7.35	7.33	7.34	7.34	7.36	7.39	7.40	7.12	7.15	7.20	7.15	7.39	7.35
Borehole depth to top of casing	m	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44
Casing Top relative to Ordnance Datum	m	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33
Water level relative to Ordnance Datum	m		62.95	62.96	63.01	62.94	62.93	62.91	62.40		62.88		62.98	63.00	62.99	62.99	62.97	62.94	62.93	63.21	63.18	63.13	63.18	62.94	62.98
Calculated purge volume	litres																								
Base of well (OD)		62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89
Gas Concentrations																										
Date monitored	-	09/01/2006	08/02/2006	09/03/2006	11/04/2006	03/05/2006	05/06/2006	13/07/2006	07/08/2006	08/09/2006	02/10/2006	06/11/2006	06/12/2006	09/01/2007	19/02/2007	06/03/2007	17/04/2007	15/05/2007	11/06/2007	17/07/2007	06/08/2007	10/09/2007	09/10/2007	16/11/2007	05/12/2007
Time of measurement	-	11:44	11:16	13:05	12:22	11:06	15:35	14:07	12:56	11:40	13:41	12:57	13:15	12:45	11:10	14:20	13:40	12:00	13:20	15:25	15:20	11:55	12:35	13:15	15:20
Methane	% vol	22.0	27.70	21.40	28.7	20.3	23.0	3.6	9.8	0.0	0.0	6.3	0	0	0.0	0.0	21.3	22.5	19.3	28.6	25.1	27.3	28.0	12.0	0.0
Carbon Dioxide	% vol	21.7	21.00	17.50	16.0	16.7	15.3	2.4	2.7	0.0	0.0	4.9	0.1	0.2	0.1	0.0	18.4	17.4	20.3	22.7	19.8	20.2	19.4	22.1	0.2
Oxygen	% vol	0.7	0.80	0.00	0.0	0.0	4.3	18.2	16.4	20.4	20.7	15.3	20.7	20.6	20.7	20.7	0.4	0.3	0.5	0.2	5.3	3.5	2.7	0.8	21.0
Atmospheric Pressure	mbars	1007	997	986	987	996	1013	1013	1010	1016	993	1008	982	975	1002	976	1012	998	1004	996	1001	1012	1014	1012	975
Gas Pressure	mbars	0	<0.1	<0.1	1.3	0.9	0.2	<0.1	<0.1	0.1	<0.1	<0.1	0.8	0.7	0.8	1.2	2.9	2.2	2	3	0.9	0.4	1.2	0.3	<0.1
Gas Flow Rate	l/hr	<0.1	<0.1	0.2	<0.1	<0.1	0.2	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment			Broken Nozzle On tap	Broken Nozzle On tap	Broken Nozzle On tap	Broken Nozzle On tap	Broken Nozzle On tap	Broken Nozzle On tap	Broken Nozzle On tap	Broken Nozzle On tap	Broken Nozzle On tap	Broken Nozzle On tap													



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T7**																								
Type Of Sample Required	None	09/01/08	04/02/08	05/03/08	22/04/08	19/05/08	10/06/08	15/07/08	18/08/08	22/09/08	27/10/08	24/11/08	15/12/08	26/01/09	23/02/09	18/03/09	30/04/09	27/05/09	17/06/09	30/07/09	25/08/09	22/09/09	28/10/09	26/11/09	17/12/09
Determinand	Units																								
Water Level																									
Water level to top of casing	m	7.33	7.33	7.31	7.12	6.97	7.14	7.25	7.35	7.18	7.24	7.25	7.08	7.28	7.09	7.31	9.61	7.43	DRY	7.02	DRY	7.11	6.02	6.11	6.42
Borehole depth to top of casing	m	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44
Casing Top relative to Ordnance Datum	m	70.33	70.33	70.33	70.33	70.33	71.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33
Water level relative to Ordnance Datum	m	63.00	63.00	63.02	63.21	63.36	64.19	63.08	62.98	63.15	63.09	63.08	63.25	63.05	63.24	63.02	60.72	62.90		63.31		63.22	64.31	64.22	63.91
Calculated purge volume	litres							1.52	0.72	2.08	1.60	1.52	2.88	1.28	2.80	1.04	-17.36	0.08		3.36		2.64	11.36	10.64	8.16
Base of well (OD)		62.89	62.89	62.89	62.89	62.89	63.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89	62.89
Gas Concentrations																									
Date monitored	-	09/01/2008	04/02/2008	05/03/2008	22/04/2008	19/05/2008	10/06/2008	15/07/2008	18/08/2008	22/09/2008	27/10/2008	24/11/2008	15/12/2008	26/01/2009	23/02/2009	18/03/2009	30/04/2009	27/05/2009	17/06/2009	30/07/2009	25/08/2009	22/09/2009	28/10/2009	26/11/2009	17/12/2009
Time of measurement	-	14:30	15:25	13:35				00:00	15:00	05:45	00:14	00:28	11:16	01:55	15:31	13:19	13:00	16:27	15:33	09:07	14:20	15:59	12:48	11:19	11:43
Methane	% vol	0.0	0.0	0.0	0.8	28.3	30.4	4.7	0.9	1.5	14.6	14.9	21	27.3	0.2	30.4	21.9	15.2	32.5	0.5	0.6	0.2	0.1	0.7	0.6
Carbon Dioxide	% vol	0.5	0.1	0.0	2.3	18..5	22.8	3.5	1.3	1.9	11	11.6	21.7	21.2	0	17.5	14.7	9.5	21.8	0.6	1.5	2.3	5.1	6.4	7.2
Oxygen	% vol	20.7	20.7	20.9	18.3	2.3	0.8	17.5	19.8	19.6	16	12.7	4.1	4.6	20.6	2	6.3	13.4	2.7	19.8	18.5	16.5	11.3	7.1	9.4
Atmospheric Pressure	mbars	980	1001	1005	1013	1009	1007	999	981	1013	996	1008	1009	999	1017	1022	1007	1000	997	999	993	999	1004	970	1013
Gas Pressure	mbars	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.17	0.14	-0.06	-0.04	0.02	-0.09	-0.02	-0.01	0.01	0	-0.02	0.4	-1.4	-1.4
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	0.1	<0.1	-0.3	<0.1	<0.1	-1.9	<0.1	<0.1	-1.2	-4.5	-3.8
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment																									

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T7									(Sept Mon)			(Dec Mon)			(March Mon)											
Type Of Sample Required	None	28/01/10	23/02/10	10/03/10	26/04/10	04/05/10	02/06/10	06/07/2010	02/08/2010	06/10/2010	27/10/2010	15/11/10	25/01/11	26/01/11	23/02/11	01/04/11	26/04/11	31/05/11	22/06/11	21/07/11	18/08/11	06/09/11	06/10/11	02/11/11	06/12/11	12/01/12	01/02/12	06/03/12
Determinand	Units																										
Water Level																											
Water level to top of casing	m	DRY	5.27	5.83	DRY	DRY	Dry	Dry	7.15	6.85	7.02		6.92	6.93	6.32	6.87	7.09	7.37	7.50	6.56	6.78	7.15	7.25	7.54	7.43	7.05	7.41	7.44
Borehole depth to top of casing	m	7.44	7.52	5.72	7.51	7.51	7.52	7.52	7.53	7.51	7.51		7.03	7.03	7.25	7.45				7.55	7.55	7.55	7.52	7.54	7.53	7.51	7.52	7.44
Casing Top relative to Ordnance Datum	m	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33		70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33
Water level relative to Ordnance Datum	m		63.55	63.35					62.35	62.15	63.31		63.41	63.40	64.01	63.46	63.24	62.96	62.83	63.77	63.55	63.18	63.08	62.79	62.90	63.28	62.92	62.89
Calculated purge volume	litres																											
Base of well (OD)		62.89	62.89	62.89	62.89	62.89	62.81	62.89	62.89	62.89	62.89		63.30	63.30	63.08	62.88				62.78	62.78	62.78	62.81	62.79	62.80	62.82	62.81	62.89
Gas Concentrations																												
Date monitored	-	28/01/2010	23/02/2010	10/03/2010	26/04/2010		02/06/2010	06/07/2010	02/08/2010	06/10/2010	27/10/2010		25/01/2011	26/01/2011	23/02/2011	01/04/2011	26/04/2011	31/05/2011	22/06/2011	20/07/2011	18/08/11	06/09/11	06/10/11	02/11/11	06/12/12	12/01/12	01/02/12	06/03/12
Time of measurement	-	02:38	10:45	10:20	13:40		12:56	11:27	14:09	16:31	13:34			13:40	9.5	17:49	14:16	09:57	15:14	10:18	11:16	13:15	10:02	10:01	11:30	11:42	11:16	10:52
Methane	% vol	0.5	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	-0.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	7	3.5	3.7	2.6		0.2	0.4	1.7	3.0	1.3		3.0	2.6	1.1	0.5	3.0	<0.1	<0.1	4.6	3.4	8.5	4.2	7.8	2.8	0.4	1.8	1.8
Oxygen	% vol	11.4	18.4	12.8	18.4		20.0	19.4	19.1	18.6	20.0		18.6	18.9	20.0	20.4	19.4	20.8	21.0	6.0	17.3	9.9	17.9	14.7	19.3	21.0	20.7	20.2
Atmospheric Pressure	mbars	1010	990	1024	1009		1009	1011	1008	987	995		1007	1016	1001	999	1023	1006	999	1003	1015	977	987	996	992	1012	1033	1013
Gas Pressure	mbars	-0.9	-0.07	-0.1	0.23		+/-0.01	0.03	0.01	-0.12	-0.02		0.06	0.05	0.1	0.04	0.01	0	0.00	-0.10	-0.02	0.01	-0.17	-0.03	<0.1	0.03	-0.01	<0.01
Gas Flow Rate	l/hr	0	-5.2	-5.1	-4.3		+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1		+/-0.1	+/-0.1	+/-0.1	0	-5	-0.2	<0.1	-3.0	0.2	5.7	<0.1	0.6	-0.2	<0.1	0.2	-0.2
Insitu Liquid Determinations																												
pH	pH units																											
Electrical Conductivity	µS/cm																											
Dissolved Oxygen	mg/l																											
Temperature	℃																											
Comment												Visit not undertaken due to adverse weather					Ok but bung difficult to remove										Almost dry		

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

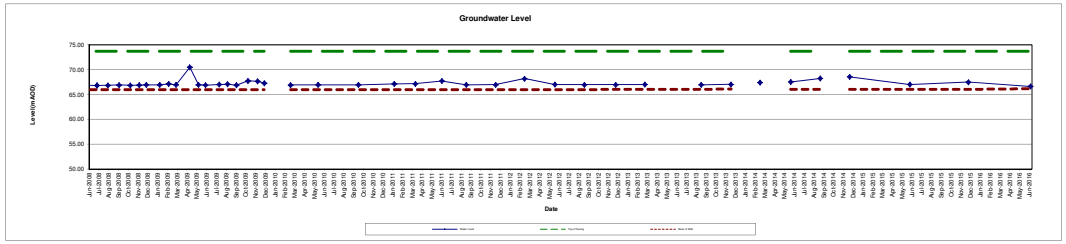
Sampling Location	**T7**																												
Type Of Sample Required	None	03/04/12	02/05/12	07/06/12	11/07/12	02/08/12	07/09/12	03/10/12	07/11/12	12/12/12	15/01/13	06/02/13	14/03/13	16/04/13	01/05/13	11/06/13	04/07/13	06/08/13	05/09/13	02/10/13	05/11/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14
Determinand	Units																												
Water Level																													
Water level to top of casing	m	7.44	6.30	7.41	6.43	7.07	6.69	Dry	7.06	Dry	6.72	6.93	7.25	Dry	Dry	Dry	Dry	7.46	Dry	Dry	6.86	7.46	6.97	6.59	7.03	7.49	Dry	Dry
Borehole depth to top of casing	m	7.53	7.50	7.53	7.54	7.50	7.52	7.53	7.51	7.54	7.53	7.53	7.54	7.5	7.53	7.51	7.52	7.52	7.53	7.53	7.55	7.51	7.54	7.54	7.54	7.54	7.54	7.54	7.51
Casing Top relative to Ordnance Datum	m	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33	70.33
Water level relative to Ordnance Datum	m	62.89	64.03	62.92	63.90	63.26	63.64	63.64	63.64		63.61	63.40	63.08					62.87			63.47	62.87	63.36		63.30	62.84			
Calculated purge volume	litres																												
Base of well (OD)		62.80	62.83	62.80	62.79	62.83	62.81	62.80	62.82	62.79	62.80	62.80	62.79	62.83	62.80	62.82	62.81	62.81	62.80	62.80	62.78	62.82	62.79	62.79	62.79	62.79	62.79	62.79	62.82
Gas Concentrations																													
Date monitored	-	03/04/12	02/05/12	07/06/12	11/07/12	02/08/2012	07/09/12	03/10/12	07/11/12	12/12/12	15/01/13	06/02/13	14/03/13	16/04/13	01/05/13	11/06/13	04/07/13	06/08/13	05/09/13	02/10/13	05/11/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14
Time of measurement	-	13:41	14:17	12:38	14:12	16:41	11:47	14:26	13:06	13:01	15:40	12:50	12:57	14:32	14:41	11:00	12:09	11:13	12:40	14:55	15:04	14:09	12:07	10:56	11:06	11:22	12:10	12:31	
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	
Carbon Dioxide	% vol	0.4	0.3	1.3	1.3	1.4	<0.1	1.8	0.9	2.1	1.6	1.4	1.1	0.4	0.4	1.2	0.1	0.2	0.4	4.8	1.1	1.3	2	2.8	0.4	1.3	0.4	0.5	
Oxygen	% vol	20.7	20.4	20.0	19.7	19.9	20.2	19.6	20.4	20.5	20.4	21.1	20.8	20.2	20.1	19.9	19.8	20.2	20.2	13.6	20.6	20.7	20.4	19.3	20.7	20.6	19.6	18.6	
Atmospheric Pressure	mbars	1006	1021	992	1001	998	1009	987	1002	1007	1008	1006	1001	987	1011	1006	1000	1004	1005	1005	981	1020	990	974	1007	1000	994	1004	
Gas Pressure	mbars	-0.40	-0.19	-0.22	-0.02	-0.21	-0.01	0.24	0.33	<0.05	-0.08	0.03	-0.02	-0.58	-0.15	<0.01	0.12	-0.15	0.09	0.15	0.23	<0.01	0.15	-0.02	-0.1	-0.05	0.02	0.31	
Gas Flow Rate	l/hr	-0.5	0.3	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	0.2	0.2	-0.3	<0.1	0.1	0.2	<0.1	<0.1	0.1	<0.1	0.1	0.2	0.2	<0.1	0.2	0.3	0.1	
Insitu Liquid Determinations																													
pH	pH units																												
Electrical Conductivity	µS/cm																												
Dissolved Oxygen	mg/l																												
Temperature	℃																												
Comment				Padlock removed - key did not fit																									

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T7**																								
Type Of Sample Required	None	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	06/01/15	03/02/15	03/03/15	02/04/15	05/05/15	15/06/15	02/07/15	04/08/15	02/09/15	06/10/15	03/11/15	14/12/15	13/01/16	02/02/16	02/03/16	05/04/16	03/05/16	24/06/16
Determinand	Units																								
Water Level																									
Water level to top of casing	m	Dry	Dry	7.4	6.92	Dry	7.09			7.49			Dry			Dry			Dry			Dry			7.1
Borehole depth to top of casing	m	7.51	7.51	7.52	7.53	7.54	7.54			7.53			7.53			7.51			7.54			7.53			7.52
Casing Top relative to Ordnance Datum	m	70.33	70.33	70.33	70.33	70.33	70.33			70.33			70.33			70.33			70.33			70.33			70.33
Water level relative to Ordnance Datum	m			62.93	63.41		63.24			62.84															63.23
Calculated purge volume	litres																								
Base of well (OD)		62.82	62.82	62.81	62.80	62.79	62.79			62.80			62.80			62.82			62.79			62.80			62.81
Gas Concentrations																									
Date monitored	-	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	06/01/15	03/02/15	03/03/15	02/04/15	05/05/15	15/06/15	02/07/15	04/08/15	02/09/15	06/10/15	03/11/15	14/12/15	13/01/16	02/02/16	02/03/16	05/04/16	03/05/16	24/06/16
Time of measurement	-	12:26	10:57	11:09	11:22	12:50	11:01	10:35	12:23	12:49	11:03	12:18	13:33	11:38	10:59	10:55	11:11	10:58	11:47	11:05	10:49	11:27	09:30	10:03	13:03
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	0.2	0.2	0.2	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.1	1.6	1.3	0.1	2.5	2.3	1	1.5	1.4	0.5	1.5	0.4	0.1	2.1	1.3	3	1.6	2.3	3.4	1.1	2.1	1.4	1.7	1.6
Oxygen	% vol	20.1	18	19.6	20.2	20.5	22.3	20.1	20.7	20.2	20	18.2	20.7	19.2	19.8	19.5	16.2	19.1	20.8	18.9	20.9	20.7	18.9	20.3	20.6
Atmospheric Pressure	mbars	1003	1002	1014	983	986	983	1000	1007	994	1012	982	1015	1004	999	1009	990	1009	1009	1000	982	982	994	1007	1006
Gas Pressure	mbars	-0.14	-0.01	-0.09	-0.04	-0.12	0.24	0.15	0.13	0.12	0.07	0.19	0.02	-0.4	0.02	0.14	0.1	0.19	-0.05	-0.09	-0.02	-0.08	-0.08	-0.22	0.09
Gas Flow Rate	l/hr	<0.1	<0.1	0.1	0.2	0.2	0.1	-0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	-0.1	<0.1	-0.1	<0.1	<0.1	0.1	-0.1	-0.1	<0.1	0.4
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment																									

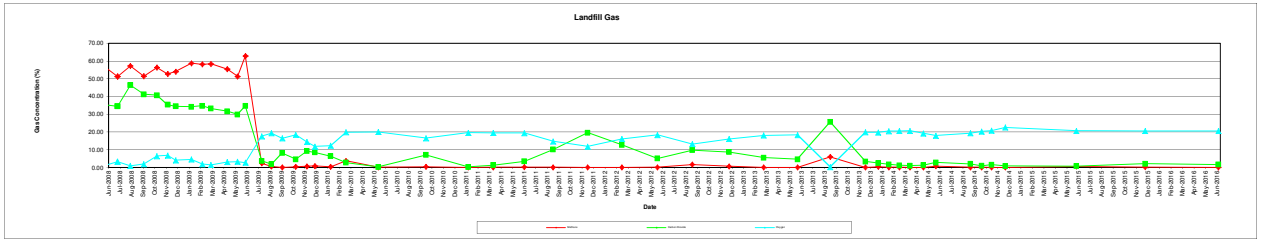
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T8																		
Type Of Sample Required	None	21/06/04	04/08/04	23/08/04	23/09/04	28/10/04	17/11/04	14/12/04	25/01/05	09/03/05	18/04/05	14/05/05	30/06/05	20/07/05	14/08/05	13/09/05	01/11/05	18/11/05	06/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	6.88	6.79	6.91	6.85	6.84	6.85	6.82	6.82	6.55	6.34	6.71	7.10	Dry	6.80		6.90	6.93	6.95
Borehole depth to top of casing	m	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74		7.74	7.74	7.74
Casing Top relative to Ordnance Datum	m	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70		73.70	73.70	73.70
Water level relative to Ordnance Datum	m	66.82	66.91	66.79	66.85	66.86	66.85	66.88	66.88	67.15	67.36	66.99	66.60		66.90		66.80	66.77	66.75
Calculated purge volume	litres																		
Base of well (OD)		65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96		65.96	65.96	65.96
Gas Concentrations																			
Date monitored	-	21/06/04	04/08/04	23/08/04	23/09/04	28/10/04	17/11/04	14/12/04	25/01/05	09/03/05	18/04/05	14/05/05	30/06/05	20/07/05	14/08/05	13/09/05	01/11/05	18/11/05	06/12/05
Time of measurement	-		14:37	1420hrs	13:49	14:30	11:40	10:05	14:15	10:10	11.40am	2.15	10.00	12.36	1.42	15:15	13:41	13:27	10:47
Methane	% vol	49.10	40.2	59	56	55.9	60	63.3	62.8	66.4	51.6	1.4	1.1	0.1	31.1	20.9	47.9	59.1	63.3
Carbon Dioxide	% vol	27.5	30.1	36.2	35.1	35.3	35.6	35.5	36.3	33.1	31.6	1.2	1.2	0.1	22.1	14.8	29.1	34.2	35
Oxygen	% vol	4.1	2	0.5	1.4	1.9	0.1	1.2	1	0.8	1	16.4	17.9	15.6	4.6	10.1	2.1	<0.1	<0.1
Atmospheric Pressure	mbars	1002	1008	997		1007	991	990	990	1019	1010	1010	995	1015	1015	1000	990	1018	999
Gas Pressure	mbars	0.0	<0.1	<0.1	2.1	2.1	<0.1	<0.1	<0.1	<0.1	2.1	0.1	<0.1	<0.1	<0.1	-0.6	1.6	2.6	2.5
Gas Flow Rate	l/hr	0.4		2.5	3.1	2.6	3.5	1.1	1	1.9	3.4	1.2	<0.1	0.1	<0.1	0.8	0.2	0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment																Water level not recorded	Bent nozzle	Bent nozzle	Bent nozzle



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T8																								
Type Of Sample Required	None	09/01/06	08/02/06	09/03/06	11/04/06	03/05/06	05/06/06	13/07/06	07/08/06	08/09/06	02/10/06	06/11/06	06/12/06	09/01/07	19/02/07	06/03/07	17/04/07	15/05/07	11/06/07	17/07/07	06/08/07	10/09/07	09/10/07	16/11/07	05/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	6.83	5.63	6.83	6.68	6.85	6.86	6.87	6.88	6.90	6.89	6.86	6.82	DRY	DRY	DRY	6.80	DRY	DRY	6.87	6.88	6.92	6.89	6.90	6.78
Borehole depth to top of casing	m	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74
Casing Top relative to Ordnance Datum	m	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70
Water level relative to Ordnance Datum	m	66.87	68.07	66.87	67.02	66.85	66.84	66.83	66.82	66.80	66.81	66.84	66.88				66.90			66.83	66.82	66.78	66.81	66.80	66.92
Calculated purge volume	litres																								
Base of well (OD)		65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96
Gas Concentrations																									
Date monitored	-	09/01/06	08/02/06	09/03/06	11/04/06	03/05/06	05/06/06	13/07/06	07/08/06	08/09/06	02/10/06	06/11/06	06/12/06	09/01/07	19/02/07	06/03/07	17/04/07	15/05/07	11/06/07	17/07/07	06/08/07	10/09/07	09/10/07	16/11/07	05/12/07
Time of measurement	-	11:34	11:07	12:49	12:17	11:00	15:24	13:55	12:45	11:30	13:36	12:45	13:00	12:30	11:00	14:10	13:30	12:10	11:40	15:09	15:10	11:45	12:25	13:25	15:10
Methane	% vol	65.4	63.80	61.00	61.6	61.8	60.0	47.4	53.8	23.1	23.9	53.6	47.8	57.2	49.5	48.7	58.8	52.7	51.0	58.2	50.5	52.1	50.3	49.1	48.3
Carbon Dioxide	% vol	35.5	34.70	32.20	31.7	30.7	33.7	30.4	3.9	21.5	19.9	34.8	31.8	35.1	32.0	33.2	33.0	33.5	32.7	33.8	29.6	30.0	28.6	26.4	33.2
Oxygen	% vol	0.6	0.70	0.00	0.0	0.0	0.6	2.8	0.9	5.5	6.2	1.1	3.2	0.6	2.4	1.9	0.6	0.5	0.3	0.7	1.5	0.9	0.5	0.7	1.9
Atmospheric Pressure	mbars	1006	997	985	986	996	1012	1013	1010	1015	993	1008	982	975	1002	976	1013	998	1004	996	1001	1012	1014	1012	975
Gas Pressure	mbars	5.3	0.7	1.5	1.4	1.2	<0.1	2.9	2.2	3.3	0.9	2.5	2.5	1.6	2.1	1.1	3.1	2.1	1.8	2.8	1.2	0.7	1.1	0.4	<0.1
Gas Flow Rate	l/hr	<0.1	<0.1	0.3	<0.1	<0.1	0.2	0.1	0.2	<0.1	<0.1	0.4	<0.1	-0.6	-0.2	<0.1	0.2	0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment		Bent nozzle																							



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T8**																										
Type Of Sample Required	None	09/01/08	04/02/08	05/03/08	22/04/08	19/05/08	10/06/08	15/07/08	15/07/08	18/08/08	22/09/08	27/10/08	24/11/08	15/12/08	26/01/09	23/02/09	18/03/09	30/04/09	27/05/09	17/06/09	30/07/09	25/08/09	22/09/09	28/10/09	26/11/09	17/12/09
Determinand	Units																										
Water Level																											
Water level to top of casing	m	6.76	6.78	6.80	6.84	6.82	6.84	6.90	6.90	6.85	6.80	6.85	6.84	6.77	6.77	6.56	6.78	3.21	6.73	6.84	6.71	6.62	6.84	5.95	6.05	6.42
Borehole depth to top of casing	m	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74	7.74
Casing Top relative to Ordnance Datum	m	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70
Water level relative to Ordnance Datum	m	66.94	66.92	66.90	66.86	66.88	66.86	66.80	66.80	66.85	66.90	66.85	66.86	66.93	66.93	67.14	66.92	70.49	66.97	66.86	66.99	67.08	66.86	67.75	67.65	67.28
Calculated purge volume	litres							6.72	6.72	7.12	7.52	7.12	7.20	7.76	7.76	9.44	7.68	36.24	8.08	7.20	8.24	8.96	7.20	14.32	13.52	10.56
Base of well (OD)		65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96
Gas Concentrations																											
Date monitored	-	09/01/08	04/02/08	05/03/08	22/04/08	19/05/08	10/06/08	15/07/08	15/07/08	18/08/08	22/09/08	27/10/08	24/11/08	15/12/08	26/01/09	23/02/09	18/03/09	30/04/09	27/05/09	17/06/09	30/07/09	25/08/09	22/09/09	28/10/09	26/11/09	17/12/09
Time of measurement	-	14:20	15:15	13:25				00:00	00:00	14:50	04:04	07:55	13:26	09:50	00:14	15:25	13:10	12:50	15:54	14:55	14:31	13:59	15:56	12:34	11:12	11:38
Methane	% vol	47.6	46.0	3.6	59.8	60.2	56.8	51.3	51.3	57.3	51.5	56.3	52.7	54.1	58.8	58.2	58.4	55.5	51.4	62.9	2.3	0.5	0	0.4	0.6	0.8
Carbon Dioxide	% vol	31.9	34.8	5.8	35.1	34.4	35.4	34.5	34.5	46.4	41.3	40.7	35.4	34.5	34.2	34.8	33.2	31.7	29.9	34.7	3.7	1.8	8.1	4.6	9.2	8.5
Oxygen	% vol	1.0	1.3	15.7	0.2	0.7	1.1	3.2	3.2	0.9	1.9	6.4	6.8	4.1	4.5	1.9	1.4	3.1	3.2	2.7	17.6	19.3	16.4	18.4	14.4	11.8
Atmospheric Pressure	mbars	980	1001	1005	1013	1009	1007	998	998	980	1013	995	1007	1009	999	1017	1022	1008	999	997	998	992	998	1003	969	1012
Gas Pressure	mbars	<0.1	<0.1	0.9	0.1	<0.1	<0.1	0.1	0.1	0.2	<0.1	<0.1	1.93	0.41	-0.04	-0.05	0.19	-0.07	0.08	0.23	0.08	0	-0.04	0	-0.04	0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.3	<0.2	<0.1	<0.1	0.7	0.1	<0.1	<0.1	<0.1	<0.1	0.6	<0.1	<0.1	<0.1	<0.1	-1.1	-0.06
Insitu Liquid Determinations																											
pH	pH units																										
Electrical Conductivity	µS/cm																										
Dissolved Oxygen	mg/l																										
Temperature	℃																										
Comment																											

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

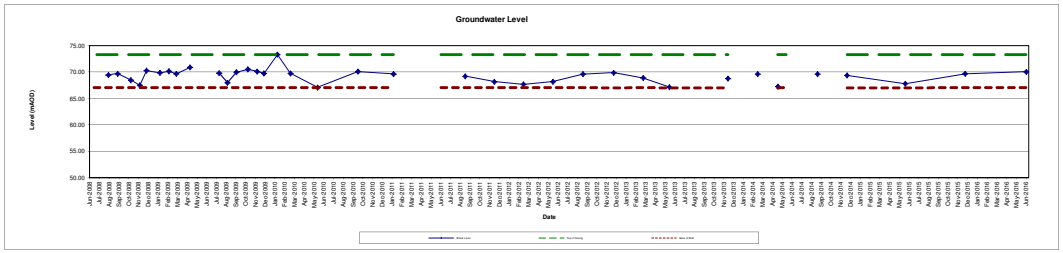
Sampling Location	**T8**				(Sept mon)	(Dec Mon)	(March Mon)																							
Type Of Sample Required	None	28/01/10	09/03/10	02/06/10	06/10/10	25/01/11	01/04/11	22/06/11	06/09/11	06/12/11	05/03/12	07/06/12	07/09/12	13/12/12	14/03/13	11/06/13	05/09/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	09/09/14	09/10/14	04/11/14	10/12/14
Determinand	Units																													
Water Level																														
Water level to top of casing	m		6.79	6.78	6.77	6.59	6.55	6.00	6.76	6.72	5.50	6.71	6.72	6.73	6.69	Dry	6.77	6.66			6.3			6.2	5.46			5.17
Borehole depth to top of casing	m		7.74	7.65	7.67	7.53	17.70	17.70	7.70	7.66	7.67	7.66	7.67	7.68	7.65	7.65	7.65	7.62			7.64			7.65	7.66			7.65
Casing Top relative to Ordnance Datum	m		73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70	73.70			73.70			73.70	73.70			73.70
Water level relative to Ordnance Datum	m		66.91	66.92	66.93	67.11	67.15	67.70	66.94	66.98	68.20	66.99	66.98	66.97	67.01		66.93	67.04			67.40			67.50	68.24			68.53
Calculated purge volume	litres																													
Base of well (OD)			65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	65.96	66.02	66.05	66.05	66.05	66.08			66.06			66.05	66.04			66.05
Gas Concentrations																														
Date monitored	-	28/01/10	09/03/10	02/06/10	06/10/10	25/01/11	01/04/11	22/06/11	06/09/11	06/12/12	05/03/12	07/06/12	07/09/12	13/12/12	14/03/13	11/06/13	05/09/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	09/09/14	09/10/14	04/11/14	10/12/14
Time of measurement	-	01:26	16:00	13:39	16:19		17:10	15:19	13:03	11:45	15:18	12:24	11:38	10:42	12:36	10:28	12:27	14:38	11:33	10:28	10:39	10:55	11:49	12:15	10:45	11:06	12:22	10:41
Methane	% vol	0.4	3.7	0.1	0.4	<0.1	0.1	0.2	0.1	<0.1	<0.1	0.1	1.6	0.6	<0.1	<0.1	6	<0.1	0.4	0.1	0.1	<0.1	<0.1	0.7	0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	6.3	2.7	0.3	7.0	0.3	1.3	3.4	10.1	19.6	12.7	5.1	9.8	8.7	5.5	4.6	25.7	3.3	2.4	1.7	1.2	1	1.3	2.8	2	0.9	1.5	0.8
Oxygen	% vol	12.3	19.9	20.0	16.5	19.6	19.5	19.4	14.7	11.8	16.1	18.3	13.2	16.1	18.1	18.3	0.3	19.9	19.8	20.5	20.6	20.7	19.2	18	19.3	20.3	20.8	22.6
Atmospheric Pressure	mbars	1010	1024	1009	987	1007	995	999	977	992	1018	992	1009	1000	1001	1006	1005	1019	990	974	1007	999	994	1004	1014	983	985	984
Gas Pressure	mbars	0.03	-0.12	0.03	-0.08	0.03	0.17	0.00	0.01	<0.1	-0.06	<0.01	-0.20	-0.12	-0.07	-0.07	0.13	0.11	-0.05	0.02	-0.1	-0.05	0.14	0.12	-0.02	-0.01	0.03	-0.07
Gas Flow Rate	l/hr	0	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.1	<0.1	<0.1	-0.4	-0.2	0.1	<0.1	<0.1	0.2	0.2	<0.1	0.1	<0.1	0.1	<0.1	0.1	0.2	0.1	<0.1	0.2	0.2	0.1
Insitu Liquid Determinations																														
pH	pH units																													
Electrical Conductivity	µS/cm																													
Dissolved Oxygen	mg/l																													
Temperature	℃																													
Comment								Tip of tap broken off	Tip of gas tap broken off	Tip of tap broken off	Tip of tap broken off			Tap above casing cover		Tap above lid requires attention	Gas tap above lid.												

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T8			
Type Of Sample Required	None	15/06/15	14/12/15	24/06/16
Determinand	Units			
Water Level				
Water level to top of casing	m	6.71	6.22	7.1
Borehole depth to top of casing	m	7.65	7.67	7.52
Casing Top relative to Ordnance Datum	m	73.70	73.70	73.70
Water level relative to Ordnance Datum	m	66.99	67.48	66.60
Calculated purge volume	litres			
Base of well (OD)		66.05	66.03	66.18
Gas Concentrations				
Date monitored	-	15/06/15	14/12/15	24/06/16
Time of measurement	-	13:26	11:35	13:03
Methane	% vol	0.5	0.2	<0.1
Carbon Dioxide	% vol	0.7	2.1	1.6
Oxygen	% vol	20.7	20.6	20.6
Atmospheric Pressure	mbars	1015	1009	1006
Gas Pressure	mbars	<0.01	-0.05	0.09
Gas Flow Rate	l/hr	0.2	<0.1	0.4
Insitu Liquid Determinations				
pH	pH units			
Electrical Conductivity	µS/cm			
Dissolved Oxygen	mg/l			
Temperature	℃			
Comment				

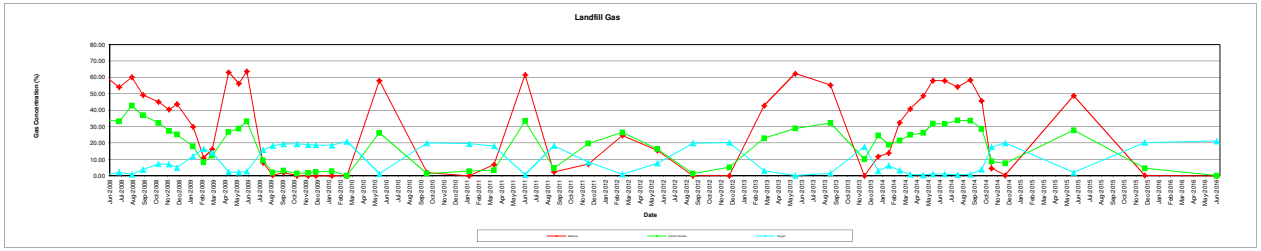
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T9																		
Type Of Sample Required	Groundwater	21/06/04	04/08/04	23/08/04	23/09/04	28/10/04	17/11/04	14/12/04	25/01/05	09/03/05	18/04/05	10/05/05	30/06/05	20/07/05	14/08/05	13/09/05	01/11/05	18/11/05	06/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	4.40	4.50	5.52	5.57	5.58	3.58	3.55	3.56	3.42	3.41	3.61	1.98	3.24	Dry	5.70	3.57	4.16	2.82
Borehole depth to top of casing	m	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26
Casing Top relative to Ordnance Datum	m	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30
Water level relative to Ordnance Datum	m	68.90	68.80	67.78	67.73	67.72	69.72	69.75	69.74	69.88	69.89	69.69	71.32	70.06		67.60	69.73	69.14	70.48
Calculated purge volume	litres	44.64																	
Base of well (OD)		67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04
Gas Concentrations																			
Date monitored	-	21/06/04	04/08/04	23/08/04	23/09/04	28/10/2004	17/11/2004	14/12/2004	25/01/2005	09/03/2005	18/04/2005	10/05/2005	30/06/2005	20/07/2005	14/08/2005	13/09/2005	01/11/2005	18/11/2005	06/12/2005
Time of measurement	-		12:04	1500hrs	14:00	14:35	11:45	10:10	14:20	10:20	12.20pm	8.15	12.00	1.31	2.21	15:20	13:45	13:20	10:37
Methane	% vol	63.40	60	63.3	0.4	0.3	62.9	66.2	66.1	66.9	32.6	0.1	0.1	0.1	<0.1	7.1	50.9	51.7	59.2
Carbon Dioxide	% vol	29.5	31.2	34.4	<0.1	0.1	33.1	33.3	32.9	29.6	21.2	3.8	<0.1	0.1	1.1	3.3	28.2	27.8	27.8
Oxygen	% vol	1.1	1	0.2	20.4	20.3	0.3	<0.1	0.1	0.5	1.3	12.8	19.6	12.3	19.1	1.6	2.5	<0.1	<0.1
Atmospheric Pressure	mbars	1002	1010	996	1004	1008	992	990	991	1019	1010	1011	995	1016	1019	1000	990	1018	999
Gas Pressure	mbars	0.0	<0.1	<0.1	2.3	2.2	<0.1	<0.1	<0.1	<0.1	4.3	1.1	0.1	<0.1	<0.1	0	1.9	3.5	7.4
Gas Flow Rate	l/hr	1.3		2.6	2.9	2.9	3.6	0.8	0.9	1.8	7.4	0.1	<0.1	<0.1	0.3	0.6	0.2	0.4	0.1
Insitu Liquid Determinations																			
pH	pH units	5.9						6.37			6.21	7.39	6.91						7.44
Electrical Conductivity	µS/cm	471						1250			5510	10910	3200						6.48
Dissolved Oxygen	mg/l	5.65						4.3			4.5	12.9	11.1						2.07
Temperature	ºC	14.9						11.1			8.4	10	10						11.1
Comment					Insufficient Sample		Not required			Site readings not carried out in error						Insufficient Sample			



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T9																								
Type Of Sample Required	Groundwater	09/01/06	08/02/06	09/03/06	11/04/06	03/05/06	05/06/06	13/07/06	07/08/06	08/09/06	02/10/06	06/11/06	06/12/06	09/01/07	19/02/07	07/03/07	17/04/07	15/05/07	11/06/07	17/07/07	06/08/07	10/09/07	09/10/07	16/11/07	05/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	3.09	3.60	3.38	3.12	4.11	5.74	DRY	DRY	DRY	DRY	3.61	2.92	3.31	3.25	2.87	4.63	5.99	3.58	3.17	3.52	5.88	5.70	5.80	3.09
Borehole depth to top of casing	m	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26
Casing Top relative to Ordnance Datum	m	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30
Water level relative to Ordnance Datum	m	70.21	69.70	69.92	70.18	69.19	67.56					69.69	70.38	69.99	70.05	70.43	68.67	67.31	69.72	70.13	69.78	67.42	67.60	67.50	70.21
Calculated purge volume	litres						0.00		N/A	0.00	N/A		26.00	N/A	N/A	28.00	N/A	0.00	22.00	24.00	22.00		N/A	N/A	24.00
Base of well (OD)		67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04
Gas Concentrations																									
Date monitored	-	09/01/2006	08/02/2006	09/03/2006	11/04/2006	03/05/2006	05/06/2006	13/07/2006	07/08/2006	08/09/2006	02/10/2006	06/11/2006	06/12/2006	09/01/2007	19/02/2007	07/03/2007	17/04/2007	15/05/2007	11/06/2007	17/07/2007	06/08/2007	10/09/2007	09/10/2007	16/11/2007	05/12/2007
Time of measurement	-	11:27	11:02	11:59	12:12	10:55	15:16	13:41	12:37	11:20	13:28	12:35	12:50	12:20	10:50	11:16	13:20	12:20	11:13	13:40	13:45	11:35	12:15	13:35	14:40
Methane	% vol	5.1	7.50	59.10	4.5	29.9	61.8	40.1	45.3	42.5	39.6	0.4	0.3	0.1	0.3	0.8	48.1	61.1	59.4	16.4	3.0	59.8	53.4	51.1	56.8
Carbon Dioxide	% vol	3.6	9.70	25.90	3.0	17.8	25.8	24.2	22.3	30.0	29.5	1.1	1.2	1.2	1.4	3.7	24.0	27.5	28.2	8.8	3.2	31.2	30.3	31.0	30.4
Oxygen	% vol	19.7	16.80	0.20	18.8	5.4	5.6	3.6	4.1	0.9	2.1	20.6	20.5	20.4	20.4	20.1	0.4	0.4	0.5	13.3	19.2	0.5	0.5	0.6	0.5
Atmospheric Pressure	mbars	1006	997	986	986	996	1013	1013	1010	1016	993	1008	982	975	1002	987	1013	999	1004	1007	1000	1012	1014	1012	975
Gas Pressure	mbars	3	1.5	0.9	0.4	1.6	1.2	2.4	1.8	2.9	1.5	4.6	1.6	3	1.9	1.5	2.8	1.9	1.7	1.7	<0.1	0.1	0.2	<0.1	7.9
Gas Flow Rate	l/hr	2.6	1.3	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	0.3	<0.1	-1	<0.1	<0.1	<0.1	5.9
Insitu Liquid Determinations																									
pH	pH units			6.01									6.6			6.45			5.95	6.11	6.15				5.98
Electrical Conductivity	µS/cm			466									1147			906			199	907	803				685
Dissolved Oxygen	mg/l			2.73									1.55			1.75			1.02	1.27	1.13				6.13
Temperature	℃			9.2									10.4			9.5			11.1	10.5	11.4				10.6
Comment							Insufficient liquid to obtain sample											Insufficient Sample				Insufficient Sample			



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T9**																								
Type Of Sample Required	Groundwater	09/01/08	04/02/08	05/03/08	22/04/08	19/05/08	09/06/08	15/07/08	18/08/08	16/09/08	27/10/08	24/11/08	15/12/08	26/01/09	23/02/09	18/03/09	30/04/09	27/05/09	17/06/09	30/07/09	25/08/09	22/09/09	28/10/09	26/11/09	17/12/09
Determinand	Units																								
Water Level																									
Water level to top of casing	m	3.04	3.05	3.51	3.28	4.4	5.99	DRY	3.85	3.60	4.82	5.82	3.02	3.44	3.17	3.62	2.43	DRY	DRY	3.51	5.34	3.35	2.80	3.18	3.58
Borehole depth to top of casing	m	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26
Casing Top relative to Ordnance Datum	m	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30
Water level relative to Ordnance Datum	m	70.26	70.25	69.79	70.02	68.90	67.31		69.45	69.70	68.48	67.48	70.28	69.86	70.13	69.68	70.87			69.79	67.96	69.95	70.50	70.12	69.72
Calculated purge volume	litres	26	26	22	24	15	2		19	21	11.52	3.52	25.92	22.56	24.72	21.12	30.64			22.00	7.36	23.28	27.68	24.64	21.44
Base of well (OD)		67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04	67.04
Gas Concentrations																									
Date monitored	-	09/01/2008	04/02/2008	05/03/2008	22/04/2008	19/05/2008	09/06/2008	15/07/2008	18/08/2008	16/09/2008	27/10/2008	24/11/2008	15/12/2008	26/01/2009	23/02/2009	18/03/2009	30/04/2009	27/05/2009	17/06/2009	30/07/2009	25/08/2009	22/09/2009	28/10/2009	26/11/2009	17/12/2009
Time of measurement	-	14:00	14:45	12:55				00:00	14:38	10:33	05:45	11:02	06:28	10:33	15:15	12:57	12:30	15:41	14:41	14:25	13:50	15:42	12:26	11:04	11:30
Methane	% vol	50.8	49.2	3.60	62.40	64.9	60.7	54.0	60.1	49.2	45	40.4	43.7	29.9	11	16.2	63.1	56.1	63.7	8.1	0.4	2	0.1	0	0
Carbon Dioxide	% vol	28.6	28.6	5.80	21.60	30.5	34.2	33.1	42.7	36.9	32.3	27.4	25.2	18	8.2	12.3	26.7	28.8	33.2	9.4	2.1	3.1	1.4	1.9	2.3
Oxygen	% vol	0.9	0.9	15.70	0.20	0.5	0.6	2.2	0.9	3.8	7.2	7	5	12	16.5	14.1	2.3	2.2	2.7	15.8	18.3	19.4	19.4	19	18.7
Atmospheric Pressure	mbars	980	1001	1005.00	1013.00	1009	1004	998	981	1008	995	1007	1010	1000	1017	1022	1007	999	997	998	992	998	1003	970	1013
Gas Pressure	mbars	3.2	3.6	0.9	-1.50	<0.1	<0.1	0.3	<0.1	<0.1	1.4	0.09	0.28	0.08	-0.09	0.09	-0.09	-0.02	0.43	0.07	-0.03	-0.05	0.01	-0.9	-0.03
Gas Flow Rate	l/hr	1.5	1.2	<0.1	<0.1	0.3	<0.1	0.2	0.3	<0.1	-0.5	<0.1	-2.3	-1.9	-2.7	-2.8	<0.1	<0.1	0.8	<0.1	<0.1	<0.1	-0.7	-2.9	-1.8
Insitu Liquid Determinations																									
pH	pH units	6.13	5.78	5.98	6.5	5.8								5.77	6.15					6.3	6.1		6.3	6.3	6.4
Electrical Conductivity	µS/cm	824	645	601	335	410								768	665					687	752		628	742	582
Dissolved Oxygen	mg/l	5.84	6.22	6.12	-	-								0	0.84										
Temperature	℃	10.2	10.4	9.8	7	10								9.09	8.78					8	9		9	8	7
Comment																									

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

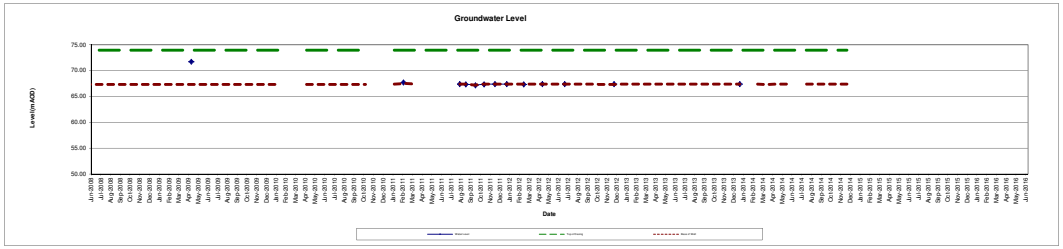
Sampling Location	**T9**				(Sept mon)	(Dec Mon)	(March Mon)																						
Type Of Sample Required	Groundwater	28/01/10	09/03/10	02/06/10	06/10/10	25/01/11	01/04/11	22/06/11	06/09/11	06/12/11	05/03/12	05/06/12	07/09/12	12/12/12	14/03/13	04/06/13	05/09/13	03/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	02/06/14	03/07/14	06/08/14	09/09/14	09/10/14
Determinand	Units																												
Water Level																													
Water level to top of casing	m	0.00	3.55	6.21	3.20	3.66		Dry	4.10	5.11	5.62	5.12	3.69	3.42	4.43	6.14	Dry	4.56			3.68		6.02	Dry			3.66	
Borehole depth to top of casing	m	6.26	6.31	6.24	6.28	6.30		6.30	6.29	6.30	6.31	6.26	6.29	6.29	6.27	6.3	6.32	6.3			6.29		6.31	6.26			6.33	
Casing Top relative to Ordnance Datum	m	73.30	73.30	73.30	73.30	73.30		73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30	73.30			73.30		73.30	73.30			73.30	
Water level relative to Ordnance Datum	m	73.30	69.75	67.09	70.10	69.64			69.20	68.19	67.68	68.18	69.61	69.88	68.87	67.16		68.74			69.62		67.28				69.64	
Calculated purge volume	litres	50.08																											
Base of well (OD)		67.04	67.04	67.04	67.04	67.04		67.04	67.04	67.04	67.04	67.04	67.04	67.01	67.03	67.00	66.98	67.00			67.01		66.99	67.04			66.97	
Gas Concentrations																													
Date monitored	-	28/01/2010	09/03/2010	02/06/2010	06/10/2010	25/01/2011	01/04/2011	22/06/2011	06/09/11	06/12/12	05/03/12	05/06/2012	07/09/12	12/12/12	14/03/13	04/06/13	05/09/13	03/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	02/06/14	03/07/14	06/08/14	09/09/14	09/10/14
Time of measurement	-	14:09	16:10	13:46	16:15		17:19	15:29	12:52	12:00	15:08	13:45	11:30	12:32	12:30	14:22	12:19	15:25	11:37	10:32	10:50	11:04	11:55	15:34	12:08	10:38	10:34	10:58	
Methane	% vol	0	0.1	58.0	2.0	<0.1	6.8	61.5	2.3	7.1	24.6	15.5	<0.1	0.1	42.8	62.3	55.3	<0.1	11.8	13.9	32.5	40.7	48.8	58	57.9	54.2	58.4	45.6	
Carbon Dioxide	% vol	2.8	0.1	26.2	1.4	2.8	3.4	33.4	4.7	19.7	26.4	16.4	1.4	5.2	22.9	28.9	32.2	10.1	24.6	19	21.5	25	26.1	31.9	31.6	33.7	33.6	28.6	
Oxygen	% vol	18.6	21.0	1.3	20.0	19.6	18.1	0.7	18.3	8.3	1.0	7.6	19.9	20.3	3.1	0.2	1.6	17.8	2.9	6.3	3.3	0.8	0.5	1.1	1.1	0.6	0.9	3.9	
Atmospheric Pressure	mbars	1010	1024	1009	987	1007	995	999	977	992	1017	1004	1009	1008	1001	1022	1005	1010	990	974	1007	1000	994	1006	1003	1001	1014	983	
Gas Pressure	mbars	-0.05	0.04	0.01	0.02	-0.05	-0.13	0.00	0.01	<0.1	-0.01	<0.01	-0.19	0.41	-0.05	<0.01	0.13	0.09	0.05	-0.12	-0.14	-0.03	0.05	-0.03	-0.04	<0.01	0.01	-0.03	
Gas Flow Rate	l/hr	0	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0	0.2	0.1	-0.1	-0.1	<0.1	0.1	0.1	-0.1	<0.1	0.1	0.4	0.2	-0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.1	0.2	
Insitu Liquid Determinations																													
pH	pH units									6.4		6.2		6.5				6.3											
Electrical Conductivity	µS/cm									610		655		615				525											
Dissolved Oxygen	mg/l									6.1		2.8		6.6				8											
Temperature	ºC									7.3		9.2		6.9				9.1											
Comment				BH effectively dry, unable to sample.			Could not remove bung to dip					Spot sample taken																	

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T9**					
Type Of Sample Required	Groundwater	04/11/14	10/12/14	09/06/15	14/12/15	21/06/16
Determinand	Units					
Water Level						
Water level to top of casing	m		3.95	5.52	3.64	3.24
Borehole depth to top of casing	m		6.3	6.3	6.25	6.27
Casing Top relative to Ordnance Datum	m		73.30	73.30	73.30	73.30
Water level relative to Ordnance Datum	m		69.35	67.78	69.66	70.06
Calculated purge volume	litres					
Base of well (OD)			67.00	67.00	67.05	67.03
Gas Concentrations						
Date monitored	-	04/11/14	10/12/14	09/06/15	14/12/15	21/06/16
Time of measurement	-	12:26	10:28	15:09	11:31	11:06
Methane	% vol	4.6	0.3	48.7	0.2	<0.1
Carbon Dioxide	% vol	8.8	7.6	27.8	4.6	0.1
Oxygen	% vol	17.6	20	2.1	20.3	21.2
Atmospheric Pressure	mbars	985	984	1026	1009	1005
Gas Pressure	mbars	0.1	0.03	-0.28	-0.04	-0.21
Gas Flow Rate	l/hr	0.3	0.2	<0.1	<0.1	-0.1
Insitu Liquid Determinations						
pH	pH units			6.3		6
Electrical Conductivity	µS/cm			660		640
Dissolved Oxygen	mg/l			3.8		5.0
Temperature	ºC			12		9.9
Comment						

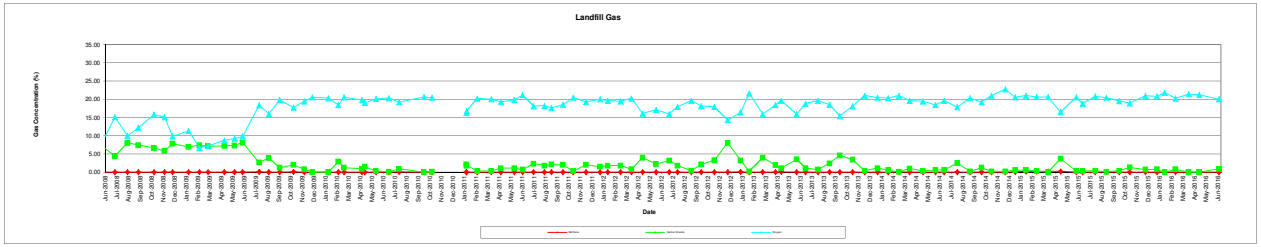
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T10																		
Type Of Sample Required	None	21/06/04	04/08/04	23/08/04	23/09/04	28/10/04	17/11/04	14/12/04	25/01/05	09/03/05	18/04/05	10/05/05	30/06/05	20/07/05	14/08/05	13/09/05	01/11/05	18/11/05	06/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	5.36	Dry	Dry	6.30	Dry	Dry	Dry
Borehole depth to top of casing	m	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60
Casing Top relative to Ordnance Datum	m	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92
Water level relative to Ordnance Datum	m												68.56			67.62			
Calculated purge volume	litres																		
Base of well (OD)		67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32
Gas Concentrations																			
Date monitored	-	21/06/04	04/08/04	23/08/04	23/09/04	28/10/2004	17/11/2004	14/12/2004	25/01/2005	09/03/2005	18/04/2005	10/05/2005	30/06/2005	20/07/2005	14/08/2005	13/09/2005	01/11/2005	18/11/2005	06/12/2005
Time of measurement	-		10:08	1505hrs	14:15	14:40	11:45	10:20	14:30	10:30	12.50pm	9.20	2.00	2.10	3.00	15:30	13:55	13:14	10:30
Methane	% vol	<0.1	<0.1	0.3	0.2	0.3	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	1.1	0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	3.3	3.7	6.9	0.2	0.1	3.9	4	3.8	6.7	2.7	0.1	<0.1	0.1	0.1	<0.1	1.3	0.2	<0.1
Oxygen	% vol	14.8	16	7.1	20.1	20.3	12.3	11.9	12.8	9.3	13.2	6.4	17.2	16.25	17.3	20.8	17.7	19.8	21
Atmospheric Pressure	mbars	1002	1009	997	1004	1008	992	990	991	1019	1010	1011	995	1016	1019	999	990	1018	999
Gas Pressure	mbars	0.0	<0.1	0.2	2.3	2.2	<0.1	<0.1	<0.1	<0.1	<0.1	1.4	1.1	1.1	<0.1	0	1.1	2.5	5.1
Gas Flow Rate	l/hr	<0.1		2.7	2.9	2.9	3.5	0.6	0.5	1.9	0.4	1.1	0.1	0.1	<0.1	0.4	<0.1	<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment																	Valve open	Valve open	



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T10**																								
Type Of Sample Required	None	09/01/06	08/02/06	09/03/06	11/04/06	03/05/06	05/06/06	13/07/06	07/08/06	08/09/06	02/10/06	06/11/06	06/12/06	09/01/07	19/02/07	06/03/07	17/04/07	15/05/07	11/06/07	17/07/07	06/08/07	10/09/07	09/10/07	16/11/07	05/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	Dry	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
Borehole depth to top of casing	m	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60
Casing Top relative to Ordnance Datum	m	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92
Water level relative to Ordnance Datum	m																								
Calculated purge volume	litres																								
Base of well (OD)		67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32
Gas Concentrations																									
Date monitored	-	09/01/2006	08/02/2006	09/03/2006	11/04/2006	03/05/2006	05/06/2006	13/07/2006	07/08/2006	08/09/2006	02/10/2006	06/11/2006	06/12/2006	09/01/2007	19/02/2007	06/03/2007	17/04/2007	15/05/2007	11/06/2007	17/07/2007	06/08/2007	10/09/2007	09/10/2007	16/11/2007	05/12/2007
Time of measurement	-	11:20	10:55	11:50	12:04	10:49	15:08	13:26	12:29	11:07	13:21	12:25	12:40	12:10	10:40	13:33	13:00	12:30	11:06	14:56	15:00	11:25	12:05	13:45	14:30
Methane	% vol	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0	0.0	0.2	0.0	0.0	0.0	0.2	0.8	1.2	1.6	1.9	0.0
Carbon Dioxide	% vol	7.7	0.20	8.10	6.5	6.3	11.9	5.5	6.7	0.9	1.5	2.1	1.9	1.7	2.2	7.4	6.1	6.8	7.2	7.3	7.4	8.3	8.6	8.2	8.3
Oxygen	% vol	5.6	20.10	4.60	3.2	5.5	20.6	11.0	11.4	19.0	18.8	16.8	17.2	18	17.8	5.6	9.3	9.7	10.3	6.4	10.6	9.7	11.0	13.3	8.6
Atmospheric Pressure	mbars	1006	997	986	986	996	1014	1012	1009	1016	993	1008	982	974	1002	976	1013	999	1004	996	1001	1012	1014	1012	975
Gas Pressure	mbars	4.3	1.4	4.6	2.1	1.5	2.2	0.4	0.9	2.1	1.7	4	0.7	0.9	0.5	0.4	2	2.2	1.4	0.4	<0.1	<0.1	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr	0.2	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment																									



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T10**																								
Type Of Sample Required	None	09/01/08	04/02/08	05/03/08	22/04/08	19/05/08	10/06/08	16/07/08	18/08/08	16/09/08	27/10/08	24/11/08	15/12/08	26/01/09	23/02/09	18/03/09	30/04/09	27/05/09	17/06/09	30/07/09	25/08/09	22/09/09	28/10/09	26/11/09	17/12/09
Determinand	Units																								
Water Level																									
Water level to top of casing	m	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	2.22	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
Borehole depth to top of casing	m	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60
Casing Top relative to Ordnance Datum	m	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92
Water level relative to Ordnance Datum	m																71.70								
Calculated purge volume	litres																35.04								
Base of well (OD)		67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32	67.32
Gas Concentrations																									
Date monitored	-	09/01/2008	04/02/2008	05/03/2008	22/04/2008	19/05/2008	10/06/2008	16/07/2008	18/08/2008	16/09/2008	27/10/2008	24/11/2008	15/12/2008	26/01/2009	23/02/2009	18/03/2009	30/04/2009	27/05/2009	17/06/2009	30/07/2009	25/08/2009	22/09/2009	28/10/2009	26/11/2009	17/12/2009
Time of measurement	-	13:50	14:35	12:45				00:00	14:30	08:38	04:04	08:52	05:16	08:38	15:09	12:48	12:00	15:33	14:32	04:04	13:34	15:31	12:08	10:54	11:22
Methane	% vol	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	0.1	0	0	0.1	0	0
Carbon Dioxide	% vol	7.4	9.4	8.6	6.8	30.5	7.3	4.4	8.0	7.4	6.6	5.8	7.8	6.9	7.4	7.1	7.2	7.3	8.1	2.6	3.9	1.2	2	0.8	0
Oxygen	% vol	12.5	10.8	12.2	9.5	7.3	7.7	15.1	10.0	12.2	15.8	15.1	9.8	11.3	6.7	7.2	8.7	9.2	9.8	18.3	16	19.8	17.7	19.4	20.5
Atmospheric Pressure	mbars	980	1001	1006	1013	1009	1007	996	981	1008	995	1006	1009	1000	1017	1022	1008	999	997	998	993	998	1003	969	1013
Gas Pressure	mbars	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.05	-0.1	-0.04	0	0.02	0.01	0.02	0.07	-0.02	0	-0.02	0	0	0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.01
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment																									

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T10**									(Sept mon)			(Dec Mon)			(March Mon)												
Type Of Sample Required	None	28/01/10	23/02/10	10/03/10	26/04/10	04/05/10	02/06/10	06/07/10	02/08/2010	06/10/2010	27/10/2010	15/11/10	25/01/11	26/01/11	23/02/11	01/04/11	26/04/11	31/05/11	22/06/11	21/07/11	18/08/11	06/09/11	06/10/11	02/11/11	06/12/11	12/01/12	01/02/12	05/03/12
Determinand	Units																											
Water Level																												
Water level to top of casing	m	DRY			DRY	DRY	DRY	DRY	DRY	6.53	DRY		DRY	DRY	6.20	DRY	DRY	DRY	DRY	DRY	6.54	6.57	6.75	6.58	6.56	6.55	Dry	6.57
Borehole depth to top of casing	m	6.60			6.55	6.55	6.60	6.56	6.56	6.54	6.54		6.54	6.56	6.45	6.56	6.58	6.50	6.70	6.59	6.54	6.57	6.75	6.58	6.56	6.55	6.57	6.57
Casing Top relative to Ordnance Datum	m	73.92			73.92	73.92	73.92	73.92	73.92	73.92	73.92		73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92
Water level relative to Ordnance Datum	m														67.72						67.38	67.35	67.17	67.34	67.36	67.37		67.35
Calculated purge volume	litres																											
Base of well (OD)		67.32			67.32	67.32	67.32	67.32	67.32	67.32	67.32		67.38	67.36	67.47	67.36			67.22		67.38	67.35	67.17	67.34	67.36	67.37	67.35	67.35
Gas Concentrations																												
Date monitored	-	28/01/2010	23/02/2010	10/03/2010	26/04/2010	04/05/2010	02/06/2010	06/07/2010	02/08/2010	06/10/2010	27/10/2010		25/01/2011	26/01/2011	23/02/2011	01/04/2011	26/04/2011	31/05/2011	22/06/2011	20/07/2011	18/08/11	06/09/11	06/10/11	02/11/11	06/12/12	12/01/12	01/02/12	05/03/12
Time of measurement	-	12:14	10:00	11:00	13:30	13:42	14:09	11:35	14:27	16:03	13:20			13:25	10.25	17:34	14:35	10:11	15:40	10:05	11:01	12:44	10:14	09:48	12:21	11:59	11:31	13:49
Methane	% vol	0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0	2.9	1.2	0.9	1.5	0.3	0.1	0.9	<0.1	0.1		2.1	1.8	0.3	0.3	1.1	1.1	0.7	2.3	1.8	2.1	2.0	0.3	2.0	1.5	1.8	1.8
Oxygen	% vol	20.3	18.4	20.5	19.8	19.0	20.1	20.3	19.2	20.6	20.4		16.2	16.8	20.2	20.0	19.3	19.8	21.1	18.1	18.2	17.6	18.5	20.4	19.3	20.0	19.6	19.4
Atmospheric Pressure	mbars	1010	989	1024	1009	1016	1009	1011	1008	987	995		1007	1016	1001	995	1023	1006	999	1002	1015	977	987	995	992	1012.0	1033	1018
Gas Pressure	mbars	0.01	0.01	+/-0.01	+/-0.01	-0.04	+/-0.01	-0.03	0.01	+/-0.01	-0.02		-0.02	+/-0.01	0.7	-0.01	-0.06	0	0.00	-0.10	<0.01	0.01	-0.14	-0.08	<0.1	<0.01	-0.03	-0.13
Gas Flow Rate	l/hr	0	0	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1		+/-0.1	+/-0.1	-0.2	0	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	-0.1	-0.2	-0.2	-0.1	<0.1	0.2
Insitu Liquid Determinations																												
pH	pH units																											
Electrical Conductivity	µS/cm																											
Dissolved Oxygen	mg/l																											
Temperature	℃																											
Comment												Visit not undertaken due to adverse										Borehole dry					

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

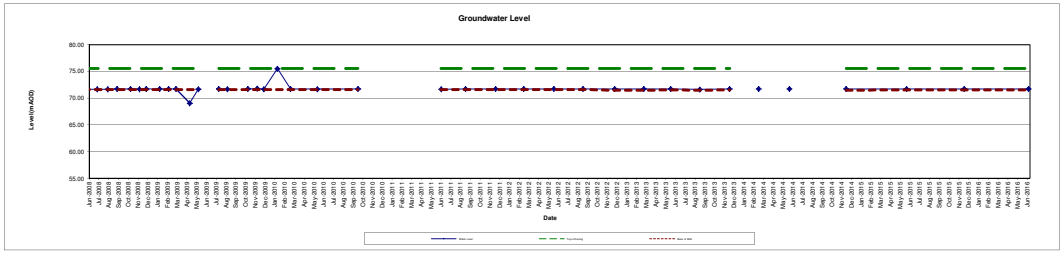
Sampling Location	**T10**																												
Type Of Sample Required	None	03/04/12	02/05/12	07/06/12	11/07/12	02/08/12	07/09/12	03/10/12	07/11/12	12/12/12	15/01/13	06/02/13	14/03/13	16/04/13	01/05/13	11/06/13	04/07/13	06/08/13	05/09/13	02/10/13	05/11/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14
Determinand	Units																												
Water Level																													
Water level to top of casing	m	Dry	6.54	Dry	6.55	Dry	Dry	Dry	Dry	6.55	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	6.55	Dry	Dry	Dry	Dry	Dry
Borehole depth to top of casing	m	6.56	6.57	6.58	6.57	6.56	6.57	6.56	6.59	6.59	6.55	6.55	6.58	6.57	6.58	6.57	6.53	6.57	6.58	6.57	6.55	6.54	6.58	6.58	6.57	6.59	6.58	6.58
Casing Top relative to Ordnance Datum	m	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92	73.92
Water level relative to Ordnance Datum	m		67.38		67.37					67.37													67.37						
Calculated purge volume	litres																												
Base of well (OD)		67.36	67.35	67.34	67.35	67.36	67.35	67.36	67.33	67.33	67.37	67.37	67.34	67.35	67.34	67.35	67.39	67.35	67.34	67.35	67.37	67.38	67.34		67.35	67.33	67.34	67.34
Gas Concentrations																													
Date monitored	-	03/04/12	02/05/12	07/06/12	11/07/12	02/08/2012	07/09/12	03/10/12	07/11/12	12/12/12	15/01/13	06/02/13	14/03/13	16/04/13	01/05/13	11/06/13	04/07/13	06/08/13	05/09/13	02/10/13	05/11/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14
Time of measurement	-	13:58	14:50	12:10	14:39	16:30	11:11	14:06	12:47	11:45	15:22	12:26	10:57	14:15	14:25	10:16	11:50	10:51	12:04	14:39	14:45	14:58	11:23	10:20	10:30	10:43	11:39	12:06
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.8	4.0	2.2	3.2	1.8	0.4	2.1	3.3	8.0	3.2	0.2	4	1.9	1.1	3.5	1.1	0.7	2.4	4.6	3.4	0.4	1.1	0.5	0.1	1	0.3	0.6
Oxygen	% vol	20.2	16.1	17.1	15.9	17.9	19.6	18.1	17.9	14.3	16.4	21.6	15.9	18.4	19.6	15.9	18.8	19.6	18.5	15.4	18.1	21	20.4	20.3	21	19.6	19.4	18.4
Atmospheric Pressure	mbars	1006	1019	992	1001	997	1009	987	1002	1008	1011	1006	1002	987	1011	1005	999	1004	1005	1009	980	1020	990	973	1007	999	993	1003
Gas Pressure	mbars	-0.20	0.15	-0.12	-0.05	<0.01	-0.18	0.22	0.25	-0.07	-0.07	0.17	0.09	-0.06	<0.01	0.02	0.21	-0.1	0.1	0.1	0.22	0.1	0.17	-0.07	-0.09	0.02	-0.21	0.21
Gas Flow Rate	l/hr	-0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	0.1	<0.1	0.2	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	0.2	<0.1	0.2	0.2	0.2
Insitu Liquid Determinations																													
pH	pH units																												
Electrical Conductivity	µS/cm																												
Dissolved Oxygen	mg/l																												
Temperature	℃																												
Comment																			Gas tap above lid.	No bung or tap.									

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T10**																									
Type Of Sample Required	None	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	06/01/15	03/02/15	03/03/15	02/04/15	05/05/15	15/06/15	02/07/15	04/08/15	02/09/15	06/10/15	03/11/15	14/12/15	13/01/16	02/02/16	02/03/16	05/04/16	03/05/16	24/06/16
Determinand	Units																									
Water Level																										
Water level to top of casing	m	Dry	Dry	Dry	Dry	Dry	Dry			Dry			Dry			Dry			Dry			Dry			Dry	
Borehole depth to top of casing	m	6.58	6.58	6.56	6.57	6.58	6.57			6.57			6.11			6.57			6.59			6.54			6.57	
Casing Top relative to Ordnance Datum	m	73.92	73.92	73.92	73.92	73.92	73.92			73.92			73.92			73.92			73.92			73.92			73.92	
Water level relative to Ordnance Datum	m																									
Calculated purge volume	litres																									
Base of well (OD)			67.34	67.36	67.35	67.34	67.35			67.35			67.81			67.35			67.33			67.38			67.35	
Gas Concentrations																										
Date monitored	-	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	06/01/15	03/02/15	03/03/15	02/04/15	05/05/15	15/06/15	02/07/15	04/08/15	02/09/15	06/10/15	03/11/15	14/12/15	13/01/16	02/02/16	02/03/16	05/04/16	03/05/16	24/06/16		
Time of measurement	-	11:56	10:23	10:16	10:45	12:10	10:12	10:23	12:03	12:33	10:53	12:08	12:54	11:25	10:40	10:40	10:56	10:40	11:12	10:37	10:35	11:10	09:16	09:54	12:29	
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	0.2	0.2	0.2	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Carbon Dioxide	% vol	0.6	2.5	0.2	1.2	0.2	0.2	0.5	0.6	0.3	<0.1	3.7	0.3	0.3	0.4	0.1	0.4	1.3	0.7	0.8	<0.1	0.8	<0.1	<0.1	0.9	
Oxygen	% vol	19.6	17.8	20.3	19.2	21	22.7	20.5	21	20.6	20.6	16.5	20.5	18.8	20.8	20.4	19.5	18.9	20.9	20.8	21.8	20.2	21.4	21.2	20	
Atmospheric Pressure	mbars	1004	1001	1015	983	985	984	1000	1006	994	1012	986	1013	1008	999	1008	990	1012	1009	1000	986	983	994	1007	1006	
Gas Pressure	mbars	0.02	<0.01	0.06	<0.01	0.14	-0.14	0.1	0.13	0.08	0.06	0.16	0.12	0.03	0.02	0.17	-0.13	0.21	-0.03	-0.1	-0.05	-0.12	-0.14	-0.14	0.09	
Gas Flow Rate	l/hr	<0.1	<0.1	0.1	0.2	0.3	0.2	-0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	0.1	-0.1	<0.1	0.1	<0.1	<0.1	0.1	-0.1	-0.1	<0.1	0.3	
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	℃																									
Comment																										

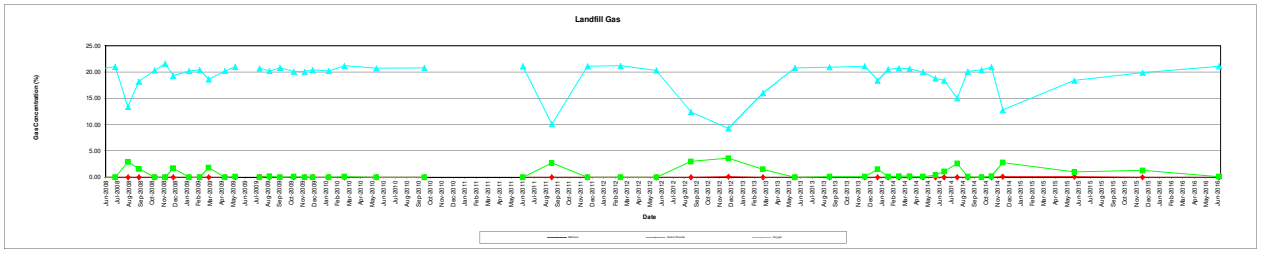
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T11**																		
Type Of Sample Required	None	22/06/04	04/08/04	23/08/04	23/09/04	28/10/04	17/11/04	14/12/04	25/01/05	09/03/05	18/04/05	10/05/05	30/06/05	20/07/05	14/08/05	13/09/05	01/11/05	18/11/05	06/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	3.82	3.90	3.83	3.85	3.85	3.77	3.97	3.97	3.80	4.20	2.64	2.10	3.37		3.70	3.78	3.79	3.77
Borehole depth to top of casing	m	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93		3.93	3.93	3.93	3.93
Casing Top relative to Ordnance Datum	m	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53		75.53	75.53	75.53	75.53
Water level relative to Ordnance Datum	m	71.71	71.63	71.70	71.68	71.68	71.76	71.56	71.56	71.73	71.33	72.89	73.43	72.16		71.83	71.75	71.74	71.76
Calculated purge volume	litres																		
Base of well (OD)		71.60	71.60	71.60	71.60	71.60	71.60	71.60	71.60	71.60	71.60	71.60	71.60	71.60		71.60	71.60	71.60	71.60
Gas Concentrations																			
Date monitored	-	22/06/04	04/08/04	23/08/04	23/09/04	28/10/2004	17/11/2004	14/12/2004	25/01/2005	09/03/2005	18/04/2005	10/05/2005	30/06/2005	20/07/2005	14/08/2005	13/09/2005	01/11/2005	18/11/2005	06/12/2005
Time of measurement	-		10:08	1510hrs	14:30	14:45	11:50	10:30	14:40	10:40	1.30pm	10.00	3.15	2.46		16:05	13:58	13:09	10:25
Methane	% vol	<0.1	<0.1	0.2	0.2	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.1	<0.1		<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	1.1	<0.1	<0.1	0.9	3.2	3.1	<0.1	2.4	<0.1	1.2	0.1		<0.1	<0.1	<0.1	<0.1
Oxygen	% vol	20.7	21	16.8	20.5	20	16.7	6.5	6.4	19.6	6.4	20.8	21.1	15.6		17.3	20.3	20.1	20.9
Atmospheric Pressure	mbars	1005	1009	996	1004	1006	991	990	990	1019	1010	1011	996	1016		999	990	1018	999
Gas Pressure	mbars	0.0	<0.1	<0.1	2.4	2.4	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1		1.1	1.8	1.6	9.1
Gas Flow Rate	l/hr	<0.1		2.6	3.1	3	3.4	0.6	0.7	1.8	0.3	0.1	<0.1	<0.1		0.4	<0.1	<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment															Cannot access				



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T11																								
Type Of Sample Required	None	09/01/06	08/02/06	09/03/06	11/04/06	03/05/06	05/06/06	13/07/06	07/08/06	08/09/06	02/10/06	06/11/06	06/12/06	09/01/07	19/02/07	06/03/07	17/04/07	15/05/07	11/06/07	17/07/07	06/08/07	10/09/07	09/10/07	16/11/07	05/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	3.80	3.79	3.78	3.78	3.79	3.85	3.87	3.86	3.91	3.89	3.80	3.80	3.80	3.80	3.81	3.81	3.83	3.85	3.80	3.82	3.88	3.87	3.87	3.80
Borehole depth to top of casing	m	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93
Casing Top relative to Ordnance Datum	m	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53
Water level relative to Ordnance Datum	m	71.73	71.74	71.75	71.75	71.74	71.68	71.66	71.67	71.62	71.64	71.73	71.73	71.73	71.73	71.72	71.72	71.70	71.68	71.73	71.71	71.65	71.66	71.66	71.73
Calculated purge volume	litres																								
Base of well (OD)		71.60	71.60	71.60	71.60	71.60	71.60	71.60	71.60	71.60	71.60	71.60	71.60	71.60	71.60	71.60	71.60	71.60	71.60	71.60	71.60	71.60	71.60	71.60	71.60
Gas Concentrations																									
Date monitored	-	09/01/2006	08/02/2006	09/03/2006	11/04/2006	03/05/2006	05/06/2006	13/07/2006	07/08/2006	08/09/2006	02/10/2006	06/11/2006	06/12/2006	09/01/2007	19/02/2007	06/03/2007	17/04/2007	15/05/2007	11/06/2007	17/07/2007	06/08/2007	10/09/2007	09/10/2007	16/11/2007	05/12/2007
Time of measurement	-	11:14	10:49	11:41	11:59	10:44	15:00	13:15	12:20	10:50	13:15	12:18	12:30	12:00	10:30	13:15	12:45	12:45	10:58	14:50	14:45	11:15	11:55	13:55	14:20
Methane	% vol	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0	0	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	2.7	0.00	2.10	2.0	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.1	0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1
Oxygen	% vol	8.7	20.70	9.70	9.2	20.3	18.3	20.5	20.3	20.6	20.7	20.2	21	20.9	20.8	20.8	21.0	20.9	20.9	20.3	20.7	20.7	20.7	20.7	17.4
Atmospheric Pressure	mbars	1006	997	986	986	996	1013	1012	1009	1016	993	1008	982	974	1002	976	1012	998	1004	996	1001	1012	1014	1012	975
Gas Pressure	mbars	2.3	1.7	3.6	2.6	1.4	1	3.9	2.7	2.6	3.2	2	0.5	0.1	0.3	0.6	2.4	1.5	0.9	1.6	0.4	<0.1	<0.1	<0.1	0.4
Gas Flow Rate	l/hr	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment																									



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T11**																								
Type Of Sample Required	None	09/02/08	04/02/08	05/03/08	22/04/08	19/05/08	10/06/08	16/07/08	18/08/08	16/09/08	27/10/08	24/11/08	15/12/08	26/01/09	23/02/09	18/03/09	30/04/09	27/05/09	17/06/09	30/07/09	25/08/09	22/09/09	28/10/09	26/11/09	17/12/09
Determinand	Units																								
Water Level																									
Water level to top of casing	m	3.78	3.70	3.82	3.82	3.81	3.84	3.87	3.84	3.80	3.81	3.82	3.79	3.80	3.81	3.81	6.45	3.83		3.80	3.82	DRY	3.80	3.74	3.83
Borehole depth to top of casing	m	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93		3.93	3.93	3.93	3.93	3.93	3.93
Casing Top relative to Ordnance Datum	m	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53		75.53	75.53	75.53	75.53	75.53	75.53
Water level relative to Ordnance Datum	m	71.75	71.83	71.71	71.71	71.72	71.69	71.66	71.69	71.73	71.72	71.71	71.74	71.73	71.72	71.72	69.08	71.70		71.73	71.71		71.73	71.79	71.70
Calculated purge volume	litres							0.48	0.72	1.04	0.96	0.88	1.12	1.04	0.96	0.96	-20.16	0.80		1.04	0.88		1.04	1.52	0.80
Base of well (OD)		71.60	71.60	71.60	71.60	71.60	71.60	71.60	71.60	71.60	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6		71.6	71.6	71.6	71.6	71.6	71.6
Gas Concentrations																									
Date monitored	-	09/02/2008	04/02/2008	05/03/2008	22/04/2008	19/05/2008	10/06/2008	16/07/2008	18/08/2008	16/09/2008	27/10/2008	24/11/2008	15/12/2008	26/01/2009	23/02/2009	18/03/2009	30/04/2009	27/05/2009	17/06/2009	30/07/2009	25/08/2009	22/09/2009	28/10/2009	26/11/2009	17/12/2009
Time of measurement	-	13:40	13:50	12:35				00:00	14:21	07:12	01:26	06:43	03:50	07:12	14:47	12:15	11:50	15:25		13:52	13:17	15:19	11:48	10:46	11:15
Methane	% vol	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0		0.1	0	0	0	0	0
Carbon Dioxide	% vol	2.5	4.2	3.5	0.2	0	0.0	0.0	2.9	1.6	0	0	1.7	0	0	1.8	0	0.1		0	0.2	0	0.1	0	0
Oxygen	% vol	17.9	16.5	17.3	20.4	21.2	20.6	21.0	13.4	18.2	20.3	21.6	19.3	20.2	20.4	18.6	20.2	21		20.7	20.2	20.8	20.1	20.1	20.4
Atmospheric Pressure	mbars	980	1000	1007	1013	1009	1008	996	981	1008	995	1006	1009	1000	1017	1023	1008	999		998	993	997	1004	969	1013
Gas Pressure	mbars	<0.1	0.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.14	1.72	2.01	0	0	-0.01	-0.01		0	0	0.01	0	0.01	0.02
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	0.02
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment																			No access						

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

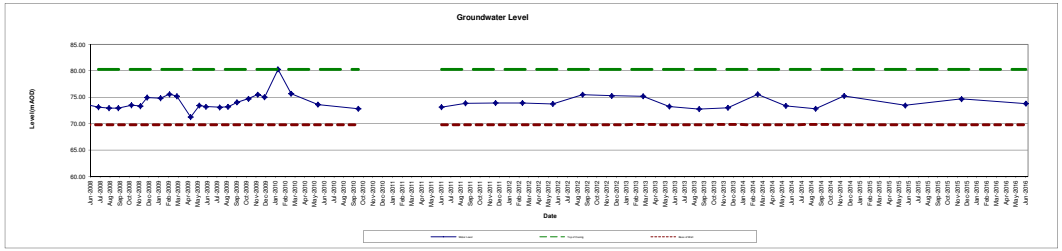
Sampling Location	**T11**				(Sept mon)	(Dec Mon)	(March Mon)																						
Type Of Sample Required	None	28/01/10	10/03/10	02/06/10	06/10/10	25/01/11	01/04/11	22/06/11	06/09/11	09/12/11	05/03/12	07/06/12	06/09/12	13/12/12	14/03/13	06/06/13	05/09/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	03/09/14	09/10/14
Determinand	Units																												
Water Level																													
Water level to top of casing	m	0.00	3.80	3.82	3.80			3.86	3.81	3.80	3.81	3.80	3.81	3.78	3.80	3.80	3.88	3.78			3.8			3.8			Dry	
Borehole depth to top of casing	m	3.93	4.02	4.02	4.00			4.04	4.04	4.02	4.02	4.03	4.03	4.03	4.04	4.01	4.02	4.01			4.03			4.02			4.03	
Casing Top relative to Ordnance Datum	m	75.53	75.53	75.53	75.53			75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53	75.53			75.53			75.53			75.53	
Water level relative to Ordnance Datum	m	75.53	71.73	71.71	71.73			71.67	71.72	71.73	71.72	71.73	71.72	71.75	71.73	71.73	71.65	71.75			71.73			71.73				
Calculated purge volume	litres	31.44																											
Base of well (OD)		71.6	71.6	71.6	71.6			71.6	71.6	71.6	71.6	71.6	71.6	71.50	71.49	71.52	71.51	71.52			71.50			71.51			71.50	
Gas Concentrations																													
Date monitored	-	28/01/2010	10/03/2010	02/06/2010	06/10/2010			22/06/2011	06/09/11	09/12/12	05/03/12	07/06/2012	06/09/12	13/12/12	14/03/13	06/06/13	05/09/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	03/09/14	09/10/14
Time of measurement	-	10:48	11:20	14:24	15:52			16:10	12:29	13:36	14:08	11:56	15:18	10:30	12:11	12:03	11:50	15:14	11:12	10:10	13:24	10:37	11:33	11:56	11:50	10:14	12:00	10:33
Methane	% vol	0	<0.1	<0.1	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0	0.1	<0.1	<0.1			<0.1	2.7	<0.1	<0.1	<0.1	3.0	3.6	1.5	<0.1	0.1	0.1	1.5	0.1	0.2	0.2	0.1	0.4	1.1	2.6	0.1	<0.1
Oxygen	% vol	20.2	21.2	20.7	20.8			21.1	10.1	21.1	21.2	20.3	12.4	9.3	16	20.8	20.9	21.1	18.4	20.5	20.7	20.6	20	18.8	18.4	15	20.1	20.4
Atmospheric Pressure	mbars	1010	1023	1009	987			999	977	996	1018	992	1004	999	1004	1016	1004	1020	989	973	1006	999	993	1003	1004	1001	1018	983
Gas Pressure	mbars	0.03	+/-0.01	0.01	+/-0.01			0.00	0.01	0.12	-0.06	-0.03	<0.01	-0.13	-0.05	0.1	-0.17	0.11	0.14	-0.15	-0.13	0.02	0.19	-0.07	0.01	<0.01	-0.12	0.03
Gas Flow Rate	l/hr	0	+/-0.1	+/-0.1	+/-0.1			<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.1	0.2	0.1	<0.1	0.1	0.2	<0.1	<0.1	<0.1	0.1	-0.1
Insitu Liquid Determinations																													
pH	pH units																												
Electrical Conductivity	µS/cm																												
Dissolved Oxygen	mg/l																												
Temperature	℃																												
Comment						Cover seized / unable to monitor	Cover seized / unable to monitor	Cap won't fit properly				Padlock removed - key did not fit																	

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T11**					
Type Of Sample Required	None	04/11/14	04/12/14	10/06/15	07/12/15	24/06/16
Determinand	Units					
Water Level						
Water level to top of casing	m		3.79	3.8	3.78	3.79
Borehole depth to top of casing	m		4.03	4.01	4.00	3.98
Casing Top relative to Ordnance Datum	m		75.53	75.53	75.53	75.53
Water level relative to Ordnance Datum	m		71.74	71.73	71.75	71.74
Calculated purge volume	litres					
Base of well (OD)			71.50	71.52	71.53	71.55
Gas Concentrations						
Date monitored	-	04/11/14	04/12/14	10/06/15	07/12/15	24/06/16
Time of measurement	-	11:58	10:55	10:44	11:32	12:18
Methane	% vol	<0.1	0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.2	2.8	1	1.3	0.1
Oxygen	% vol	20.9	12.8	18.4	19.9	21.1
Atmospheric Pressure	mbars	984	1010	1024	1012	1005
Gas Pressure	mbars	-0.09	0.04	0.09	-0.02	0.09
Gas Flow Rate	l/hr	0.1	-0.1	-0.2	-0.1	0.3
Insitu Liquid Determinations						
pH	pH units					
Electrical Conductivity	µS/cm					
Dissolved Oxygen	mg/l					
Temperature	ºC					
Comment						

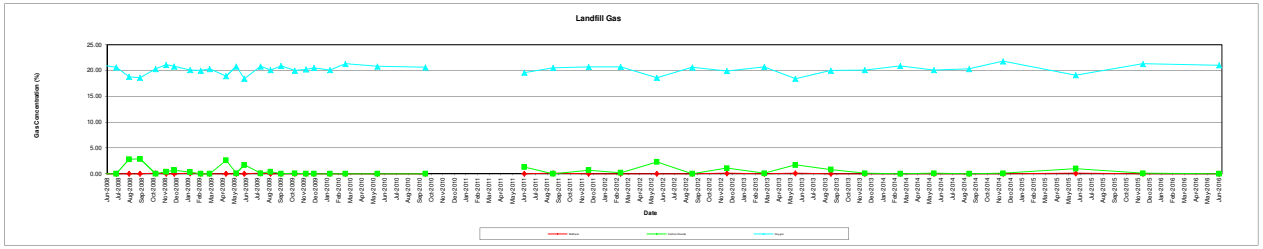
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T12a**																		
Type Of Sample Required	None	22/06/04	04/08/04	23/08/04	23/09/04	28/10/04	17/11/04	14/12/04	25/01/05	09/03/05	18/04/05	10/05/05	30/06/05	20/07/05	14/08/05	13/09/05	01/11/05	18/11/05	05/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	6.38	6.50	7.16	7.32	7.32	7.10	6.48	6.47	5.90	5.10	5.51	5.21	7.41	7.10	7.16	7.56	7.57	6.91
Borehole depth to top of casing	m	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49
Casing Top relative to Ordnance Datum	m	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25
Water level relative to Ordnance Datum	m	73.87	73.75	73.09	72.93	72.93	73.15	73.77	73.78	74.35	75.15	74.74	75.04	72.84	73.15	73.09	72.69	72.68	73.34
Calculated purge volume	litres																		
Base of well (OD)		69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76
Gas Concentrations																			
Date monitored	-	22/06/04	04/08/04	23/08/04	23/09/04	28/10/2004	17/11/2004	14/12/2004	25/01/2005	09/03/2005	18/04/2005	10/05/2005	30/06/2005	20/07/2005	14/08/2005	13/09/2005	01/11/2005	18/11/2005	05/12/2005
Time of measurement	-		10:09	1515hrs	14:40	14:50	11:55	10:40	14:50	10:50	1.55pm	10.45	4.45	3.45	3.46	15:50	14:02	13:01	14:03
Methane	% vol	<0.1	1	0.1	0.3	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	1.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.3	1	2.1	<0.1	<0.1	1	<0.1	<0.1	2.3	2.2	2.1	0.1	<0.1	0.3	<0.1	1.2	1	0.4
Oxygen	% vol	20.5	18.1	18.5	20.4	20.4	19.2	20.9	20.8	16.5	16.1	20.6	15.6	14.3	14.6	20.7	19.2	19.3	20.4
Atmospheric Pressure	mbars	1004	1010	996	1004	1008	990	990	991	1018	1010	1020	995	1016	1015	999	990	1017	986
Gas Pressure	mbars	0.0	<0.1	0.6	2.4	2.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	1.1	0.1	0	2	4.6	1.5
Gas Flow Rate	l/hr	<0.1		2.5	3	2.9	3.3	0.8	0.6	1.9	0.2	0.1	0.1	0.1	1.1	0.4	0.2	<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	ºC																		
Comment																			



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T12a																								
Type Of Sample Required	None	09/01/06	08/02/06	09/03/06	11/04/06	03/05/06	05/06/06	13/07/06	07/08/06	08/09/06	02/10/06	06/11/06	06/12/06	09/01/07	19/02/07	06/03/07	17/04/07	15/05/07	11/06/07	17/07/07	06/08/07	10/09/07	09/10/07	16/11/07	05/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	5.63	5.66	5.21	4.39	5.09	6.58	7.09	7.07	7.40	7.42	7.19	6.31	5.92	6.24	6.24	6.24	6.24	7.08	6.41	6.42	6.28	6.22	6.51	6.84
Borehole depth to top of casing	m	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49
Casing Top relative to Ordnance Datum	m	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25
Water level relative to Ordnance Datum	m	74.62	74.59	75.04	75.86	75.16	73.67	73.16	73.18	72.85	72.83	73.06	73.94	74.33	74.01	74.01	74.01	74.01	73.17	73.84	73.83	73.97	74.03	73.74	73.41
Calculated purge volume	litres																		26.00	N/A	N/A	32.00	N/A	N/A	28.00
Base of well (OD)		69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76
Gas Concentrations																									
Date monitored	-	09/01/2006	08/02/2006	09/03/2006	11/04/2006	03/05/2006	05/06/2006	13/07/2006	07/08/2006	08/09/2006	02/10/2006	06/11/2006	06/12/2006	09/01/2007	19/02/2007	06/03/2007	17/04/2007	15/05/2007	11/06/2007	17/07/2007	06/08/2007	10/09/2007	09/10/2007	16/11/2007	05/12/2007
Time of measurement	-	11:07	10:41	11:33	11:55	10:35	14:45	13:05	12:10	10:40	13:08	12:05	12:20	11:50	10:20	13:00	12:30	13:00	10:00	14:32	14:35	10:45	11:45	14:05	13:45
Methane	% vol	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0	0	0.0	0.2	0.2	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	1.5	1.80	2.50	0.7	1.7	2.3	1.2	1.5	1.4	1.8	1.3	0.6	0.1	0.3	0.2	0.3	0.4	2.5	2.7	2.2	0.5	1.2	2.1	0.6
Oxygen	% vol	18.9	18.40	15.90	19.5	19.2	18.1	19.5	19.1	19.6	19.4	20.2	20.7	20.9	20.8	20.7	20.7	20.5	18.2	17.3	17.8	20.0	19.8	19.5	19.8
Atmospheric Pressure	mbars	1005	996	986	986	996	1013	1011	1008	1016	993	1008	981	972	1001	975	1012	998	1000	995	1000	1012	1014	1012	974
Gas Pressure	mbars	2.6	2.0	2.6	1.4	0.3	2.7	5.7	1.1	1.4	0.9	4.5	0.2	0.9	0.4	0.5	0.5	0.4	1.4	1.9	1.2	<0.1	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr	0.3	<0.1	<0.1	<0.1	<0.1	1.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																		5.59			5.61			5.34
Electrical Conductivity	µS/cm																		634			210			238
Dissolved Oxygen	mg/l																		2.51			9.42			10.54
Temperature	℃																		9.8			10.4			9.6
Comment																						casing damaged (bent)	casing damaged (bent)	casing damaged (bent)	casing damaged (bent)



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

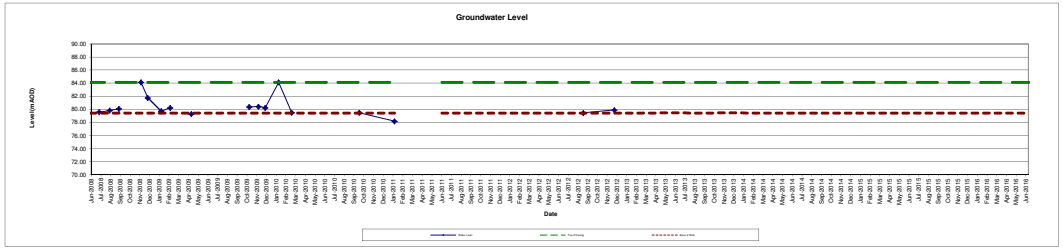
Sampling Location	**T12a**																									
Type Of Sample Required	None	09/01/08	04/02/08	05/03/08	22/04/08	19/05/08	09/06/08	16/07/08	18/08/08	16/09/08	27/10/08	24/11/08	15/12/08	26/01/09	23/02/09	18/03/09	30/04/09	27/05/09	17/06/09	30/07/09	25/08/09	22/09/09	28/10/09	26/11/09	17/12/09
Determinand	Units																									
Water Level																										
Water level to top of casing	m	6.81	6.81	5.51	6.03	5.9	6.64	7.14	7.30	7.29	6.75	6.92	5.31	5.42	4.68	5.07	9.01	6.82	7.03	7.16	7.08	6.21	5.53	4.74	5.23
Borehole depth to top of casing	m	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49	10.49
Casing Top relative to Ordnance Datum	m	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25
Water level relative to Ordnance Datum	m	73.44	73.44	74.74	74.22	74.35	73.61	73.11	72.95	72.96	73.50	73.33	74.94	74.83	75.57	75.18	71.24	73.43	73.22	73.09	73.17	74.04	74.72	75.51	75.02
Calculated purge volume	litres	29	29	40	36	37	31	27	26	26	29.92	28.56	41.44	40.56	46.48	43.36	11.84	29.36	27.68	26.64	27.28	34.24	39.68	46.00	42.08
Base of well (OD)		69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76	69.76
Gas Concentrations																										
Date monitored	-	09/01/2008	04/02/2008	05/03/2008	22/04/2008	19/05/2008	09/06/2008	16/07/2008	18/08/2008	16/09/2008	27/10/2008	24/11/2008	15/12/2008	26/01/2009	23/02/2009	18/03/2009	30/04/2009	27/05/2009	17/06/2009	30/07/2009	25/08/2009	22/09/2009	28/10/2009	26/11/2009	17/12/2009
Time of measurement	-	13:20	13:25	12:00				00:00	14:12	06:43	08:52	05:16	00:57	04:33	14:19	11:56	11:50	15:14	14:11	13:44	13:01	15:05	11:31	10:40	11:13
Methane	% vol	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0.1	0	0	0.1	0	0	0	0	0	0.1	0	0	0	0	0
Carbon Dioxide	% vol	1.1	0.9	0.3	3	2.1	0.0	0.0	2.8	2.9	0	0.4	0.7	0.3	0	0	2.6	0.1	1.7	0.1	0.4	0	0.1	0	0
Oxygen	% vol	19.6	19.4	20.7	18	20.4	21.0	20.6	18.8	18.6	20.3	21.1	20.8	20.1	20	20.3	18.9	20.8	18.4	20.8	20.1	20.9	20	20.2	20.5
Atmospheric Pressure	mbars	980	1000	1007	1010	1009	1002	995	980	1007	994	1005	1009	998	1017	1023	1008	999	997	997	993	997	1003	969	1012
Gas Pressure	mbars	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	-0.3	2.61	-0.05	1.12	-0.01	0.05	0.05	0.02	0	0.02	0.03	-0.04	0.03	0.03	0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	-1.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.2	<0.1
Insitu Liquid Determinations																										
pH	pH units	5.45	5.3	5.44	6.5	5.8	7	5.9		5.69	9.40	6.00		6.07	5.16		6.00	5.90		7.60	5.90		6.50	6.00	6.20
Electrical Conductivity	µS/cm	332	320	171	229	213	253	263		259	260.00	260.00		222.00	339.00		236.00	248.00		272.00	266.00		213.00	240.00	216.00
Dissolved Oxygen	mg/l	8.62	9.65	9.61				0		0	7.08	0.00		6.25	7.11										
Temperature	℃	9.4	9.3	10.4	7	9	7.9	7		9.51	9.02	6.00		7.74	8.61		6.00	7.00		7.00	8.00		9.00	8.00	7.00
Comment		casing damaged (bent)	casing damaged (bent)	casing damaged (bent)																					

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T12a**				(Sept mon)	(Dec Mon)	(March Mon)																			
Type Of Sample Required	None	28/01/10	10/03/10	02/06/10	06/10/10	25/01/11	01/04/11	23/06/11	06/09/11	09/12/11	02/03/12	05/06/12	06/09/12	06/12/12	14/03/13	04/06/13	05/09/13	03/12/13	06/03/14	02/06/14	03/09/14	01/12/14	10/06/15	04/12/15	21/06/16
Determinand	Units																								
Water Level																									
Water level to top of casing	m	0.00	4.60	6.65	7.43			7.12	6.40	6.33	6.34	6.52	4.78	4.98	5.06	7.02	7.49	7.25	4.71	6.89	7.41	5.02	6.8	5.58	6.47
Borehole depth to top of casing	m	10.49	10.46	10.45	10.42			10.48	10.48	10.45	10.42	10.42	10.41	10.45	10.43	10.46	10.44	10.43	10.46	10.44	10.41	10.44	10.44	10.45	10.44
Casing Top relative to Ordnance Datum	m	80.25	80.25	80.25	80.25			80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25	80.25
Water level relative to Ordnance Datum	m	80.25	75.65	73.60	72.82			73.13	73.85	73.92	73.91	73.73	75.47	75.27	75.19	73.23	72.76	73.00	75.54	73.36	72.84	75.23	73.45	74.67	73.78
Calculated purge volume	litres	83.92																							
Base of well (OD)		69.76	69.76	69.76	69.76			69.76	69.76	69.76	69.76	69.76	69.76	69.80	69.82	69.79	69.81	69.82	69.79	69.81	69.84	69.81	69.81	69.80	69.81
Gas Concentrations																									
Date monitored	-	28/01/2010	10/03/2010	02/06/2010	06/10/2010			23/06/2011	06/09/11	09/12/12	02/03/12	05/06/2012	06/09/12	06/12/12	14/03/13	04/06/13	05/09/13	03/12/13	06/03/14	02/06/14	03/09/14	01/12/14	10/06/15	04/12/15	21/06/16
Time of measurement	-	10:04	11:30	14:35	15:21			08:37	11:47	13:47	14:03	12:53	16:05	15:08	12:39	13:55	13:56	13:48	13:31	14:17	12:08	12:41	10:53	13:15	10:23
Methane	% vol	0	<0.1	<0.1	<0.1			<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	0	<0.1	<0.1	<0.1			1.3	<0.1	0.7	0.2	2.3	<0.1	1.1	0.1	1.7	0.8	0.1	<0.1	0.1	<0.1	0.1	1	0.1	<0.1
Oxygen	% vol	20.1	21.3	20.8	20.6			19.6	20.5	20.7	20.7	18.6	20.6	19.9	20.7	18.4	20	20.1	20.9	20.1	20.3	21.8	19.1	21.3	21
Atmospheric Pressure	mbars	1010	1023	1009	988			1003	977	995	1018	1003	1004	988	1001	1021	1004	1009	1006	1005	1016	1002	1023	1000	1004
Gas Pressure	mbars	0.01	0.01	-0.1	+/-0.01			0.00	0.01	<0.1	0.08	<0.01	<0.01	<0.05	-0.02	<0.01	0.03	0.03	-0.13	0.19	-0.09	-0.26	0.13	<0.01	-0.19
Gas Flow Rate	l/hr	0	+/-0.1	+/-0.1	+/-0.1				NR	<0.1	-0.1	<0.1	<0.1	-0.1	<0.1	<0.1	0.1	0.1	<0.1	0.3	0.1	0.2	-0.2	-0.1	-0.1
Insitu Liquid Determinations																									
pH	pH units									5.9		5.8		5.9		5.8		5.7		5.6		5.7	6.0	5.7	5.4
Electrical Conductivity	µS/cm									225		265		230		230		205		235		220	235	225	215
Dissolved Oxygen	mg/l									10.5		10.7		10.1		9.7		11.2		11.4		n/r	10.2	10.5	9.8
Temperature	℃									8.1		8.5		7.5		9.1		8.7		9.7		9.5	9.8	9.1	8.9
Comment						Cover seized / unable to monitor	Cover seized / unable to monitor	Tap either blocked or broken	Gas tap blocked	Tap broken/blocked	Gas tap requires replacing														

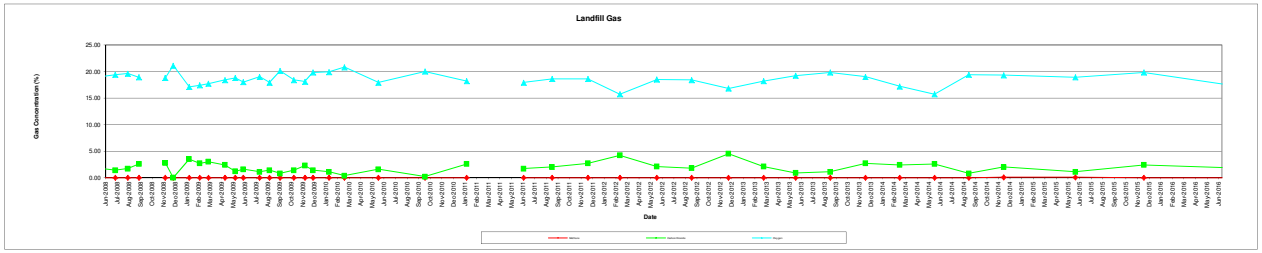
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T13																		
Type Of Sample Required	None	22/06/04	04/08/04	23/08/04	23/09/04	28/10/04	17/11/04	14/12/04	25/01/05	09/03/05	18/04/05	10/05/05	01/07/05	20/07/05	00/01/00	13/09/05	02/11/05	18/11/05	05/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	4.23	4.21	4.27	4.28	4.30	4.29	4.25	4.27	3.72	5.26	4.82	4.34	Dry		4.44	4.69	3.12	2.33
Borehole depth to top of casing	m	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70		4.70	4.70	4.70	4.70
Casing Top relative to Ordnance Datum	m	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11		84.11	84.11	84.11	84.11
Water level relative to Ordnance Datum	m	79.88	79.90	79.84	79.83	79.81	79.82	79.86	79.84	80.39	78.85	79.29	79.77			79.67	79.42	80.99	81.78
Calculated purge volume	litres																		
Base of well (OD)		79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41		79.41	79.41	79.41	79.41
Gas Concentrations																			
Date monitored	-	22/06/04	04/08/04	23/08/04	23/09/04	28/10/2004	17/11/2004	14/12/2004	25/01/2005	09/03/2005	18/04/2005	10/05/2005	01/07/2005	20/07/2005		13/09/2005	02/11/2005	18/11/2005	05/12/2005
Time of measurement	-		11:40	1535hrs	14:50	14:55	12:00	10:45	15:00	11:00	2.35pm	11.30	8.55	4.15		15:55	10:31	12:55	13:55
Methane	% vol	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.1		<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	1	<0.1	<0.1	0.1	<0.1	<0.1	0.9	1.3	3.2	<0.1	1.1		0.3	1.3	1.3	0.9
Oxygen	% vol	20.6	20.5	19.9	20.4	20.5	20.4	20.6	20.6	19.9	12.4	20	13.1	13.6		20.6	18.7	18.8	19.8
Atmospheric Pressure	mbars	1004	1011	995	1004	1008	990	990	991	1018	1010	980	995	1015		998	986	1017	986
Gas Pressure	mbars	0.0	<0.1	<0.1	2.4	2.3	1.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.2		1.1	0	2.8	4.2
Gas Flow Rate	l/hr	<0.1		2.5	2.6	3.4	3.4	0.7	0.5	1.8	0.1	0.5	1.1	1.1		1.1	0.1	<0.1	1.1
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment															Cannot access				



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T13																								
Type Of Sample Required	None	09/01/06	08/02/06	09/03/06	11/04/06	03/05/06	05/06/06	13/07/06	07/08/06	08/09/06	02/10/06	06/11/06	06/12/06	09/01/07	19/02/07	06/03/07	17/04/07	15/05/07	11/06/07	17/07/07	06/08/07	10/09/07	09/10/07	16/11/07	05/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	3.12	3.95	3.08	4.22	4.65	DRY	DRY	DRY	DRY	DRY	DRY	DRY	4.28	4.45	3.30	DRY	DRY	DRY	4.34	4.34	4.41	4.39	4.38	4.42
Borehole depth to top of casing	m	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70
Casing Top relative to Ordnance Datum	m	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11
Water level relative to Ordnance Datum	m	80.99	80.16	81.03	79.89	79.46								79.83	79.66	80.81				79.77	79.77	79.70	79.72	79.73	79.69
Calculated purge volume	litres																								
Base of well (OD)		79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41
Gas Concentrations																									
Date monitored	-	09/01/2006	08/02/2006	09/03/2006	11/04/2006	03/05/2006	05/06/2006	13/07/2006	07/08/2006	08/09/2006	02/10/2006	06/11/2006	06/12/2006	09/01/2007	19/02/2007	06/03/2007	17/04/2007	15/05/2007	11/06/2007	17/07/2007	06/08/2007	10/09/2007	09/10/2007	16/11/2007	05/12/2007
Time of measurement	-	11:00	10:35	11:25	11:50	10:29	14:35	12:57	12:02	10:30	13:00	11:55	12:10	11:40	10:10	12:15	12:25	13:10	10:48	14:25	14:25	16:20	11:35	14:20	13:10
Methane	% vol	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0	0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	0.9	1.50	1.20	1.2	1.5	1.3	0.7	0.8	1.0	1.3	1.3	1.1	1.3	1.4	1.5	1.9	2.1	2.3	1.4	0.7	0.9	1.3	0.9	0.8
Oxygen	% vol	21	18.70	18.20	18.9	17.8	18.6	19.2	18.9	19.5	19.2	19.4	19.5	19.1	19.3	18.1	17.5	17.2	17.0	19.3	19.5	19.3	19.0	19.4	19.5
Atmospheric Pressure	mbars	1005	996	986	985	996	1013	1012	1009	1016	993	1008	981	972	1001	976	1012	998	1000	996	1000	1011	1013	1012	974
Gas Pressure	mbars	3.7	0.9	2.4	1.6	1.1	1	2.5	1.8	2.7	3.4	3.5	4.1	1	2.5	1	2.9	2.1	1.1	1.7	1.5	+1.1	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr	4.5	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment																									



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

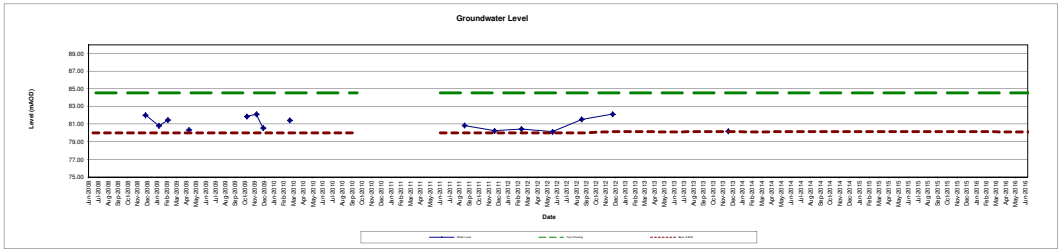
Sampling Location	**T13**																								
Type Of Sample Required	None	09/01/08	04/02/08	05/03/08	22/04/08	19/05/08	09/06/08	16/07/08	18/08/08	16/09/08	27/10/08	24/11/08	15/12/08	26/01/09	23/02/09	18/03/09	30/04/09	27/05/09	17/06/09	30/07/09	25/08/09	22/09/09	28/10/09	26/11/09	17/12/09
Determinand	Units																								
Water Level																									
Water level to top of casing	m	4.39	4.41	4.40	DRY	DRY	DRY	4.53	4.3	4.02	DRY	DRY	2.36	4.40	3.87	DRY	4.82	DRY	DRY	DRY	DRY	DRY	3.75	3.68	3.88
Borehole depth to top of casing	m	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70
Casing Top relative to Ordnance Datum	m	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11
Water level relative to Ordnance Datum	m	79.72	79.70	79.71				79.58	79.81	80.09		84.11	81.75	79.71	80.24		79.29						80.36	80.43	80.23
Calculated purge volume	litres							1.36	3.20	5.44		37.60	18.72	2.40	6.64								7.60	8.16	6.56
Base of well (OD)		79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41	79.41
Gas Concentrations																									
Date monitored	-	09/01/2008	04/02/2008	05/03/2008	22/04/2008	19/05/2008	09/06/2008	16/07/2008	18/08/2008	16/09/2008	27/10/2008	24/11/2008	15/12/2008	26/01/2009	23/02/2009	18/03/2009	30/04/2009	27/05/2009	17/06/2009	30/07/2009	25/08/2009	22/09/2009	28/10/2009	26/11/2009	17/12/2009
Time of measurement	-	13:10	13:15	11:50				00:00	14:01	05:16	00:00	04:04	00:14	08:24	14:14	11:52	11:40	15:06	14:03	13:37	12:51	15:01	11:24	08:24	11:07
Methane	% vol	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Carbon Dioxide	% vol	1.2	1.0	1.2	2.5	1.6	1.7	1.4	1.7	2.6		2.8	0	3.5	2.7	3	2.4	1.2	1.6	1.1	1.4	0.8	1.4	2.3	1.4
Oxygen	% vol	19.4	19.4	19.3	17.9	19.4	19.0	19.4	19.6	18.9		18.8	21.1	17.1	17.4	17.7	18.4	18.8	18	19	17.9	20.1	18.4	18.1	19.8
Atmospheric Pressure	mbars	980	1000	1007	1010	1009	1002	995	980	1007		1004	1010	997	1017	1023	1009	998	996	997	993	996	1003	968	1012
Gas Pressure	mbars	<0.1	<0.1	<0.1	-0.4	<0.1	<0.1	<0.1	<0.1	<0.1		-0.04	-4.29	0.05	0	0	0.08	0.03	0.07	0.05	0	-0.05	0.01	0.02	0.04
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	0.1	0.1	<0.1	-0.8	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment											Equipment Failure														

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T13**				(Sept mon)	(Dec Mon)	(March Mon)																		
Type Of Sample Required	None	28/01/10	10/03/10	07/06/10	07/10/10	25/01/11	01/04/11	23/06/11	06/09/11	09/12/11	02/03/12	07/06/12	06/09/12	12/12/12	14/03/13	06/06/13	05/09/13	06/12/13	06/03/14	05/06/14	03/09/14	04/12/14	10/06/15	07/12/15	30/06/16
Determinand	Units																								
Water Level																									
Water level to top of casing	m	0.00	4.64	Dry	4.64	5.93		DRY	Dry	Dry	Dry	Dry	4.66	4.21	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Borehole depth to top of casing	m	4.70	4.67	4.67	4.67	6.48		4.70	4.72	4.67	4.68	4.69	4.69	4.69	4.68	4.66	4.68	4.66	4.69	4.69	4.68	4.69	4.69	4.68	4.7
Casing Top relative to Ordnance Datum	m	84.11	84.11	84.11	84.11	84.11		84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11	84.11
Water level relative to Ordnance Datum	m	84.11	79.47		79.47	78.18							79.45	79.90											
Calculated purge volume	litres	37.60																							
Base of well (OD)		79.41	79.41	79.41	79.41	79.41		79.41	79.41	79.41	79.41	79.41	79.41	79.42	79.43	79.45	79.43	79.45	79.42	79.42	79.43	79.42	79.42	79.43	79.41
Gas Concentrations																									
Date monitored	-	28/01/2010	10/03/2010	07/06/2010	07/10/2010	25/01/2011		23/06/2011	06/09/11	09/12/11	02/03/12	07/06/2012	06/09/12	12/12/12	14/03/13	06/06/13	05/09/13	06/12/13	06/03/14	05/06/14	03/09/14	04/12/14	10/06/15	07/12/15	30/06/16
Time of measurement	-	08:38	11:40	13:38	09:05			09:45	12:17	13:52	14:09	11:36	15:57	11:30	12:44	11:55	14:00	15:27	13:36	13:42	12:14	11:03	11:29	11:38	11:25
Methane	% vol	0	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	1.1	0.4	1.6	0.2	2.6		1.7	2.0	2.7	4.2	2.1	1.8	4.5	2.1	0.9	1.1	2.7	2.4	2.6	0.8	2	1.1	2.4	1.9
Oxygen	% vol	19.9	20.8	17.9	20.0	18.2		17.9	18.6	18.6	15.7	18.5	18.4	16.8	18.2	19.2	19.8	19	17.2	15.7	19.4	19.3	18.9	19.8	17.6
Atmospheric Pressure	mbars	1009	1023	1000	1012	1008		1003	976	995	1018	992	1003	1006	1002	1016	1003	1019	1005	999	1016	1009	1022	1011	993
Gas Pressure	mbars	0.02	0.05	-0.01	0.03	-0.03		0.00	0.01	0.10	0.05	0.01	<0.01	0.07	<0.01	0.03	-0.02	0.11	-0.11	-0.22	-0.14	0.03	0.02	-0.01	<0.01
Gas Flow Rate	l/hr	0	+/-0.1	+/-0.1	+/-0.1	+/-0.1		<0.1	<0.1	<0.1	-0.1	<0.1	0.1	0.2	0.2	0.1	<0.1	0.1	<0.1	<0.1	0.1	-0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment							Cover seized / unable to monitor		Borehole dry			Borehole dry	Dry												

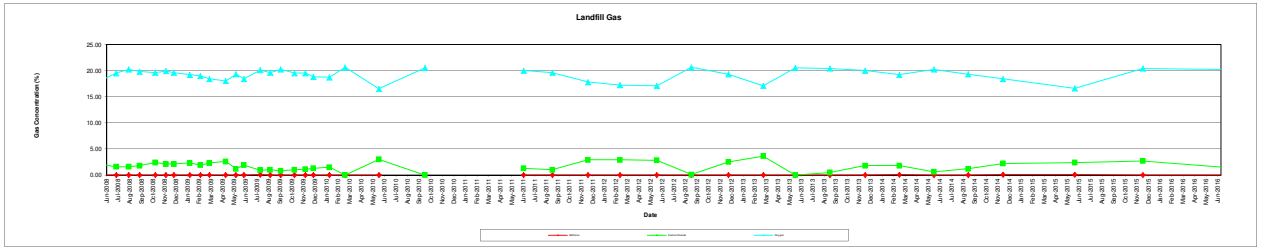
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T14																		
Type Of Sample Required	None	22/06/04	04/08/04	23/08/04	23/09/04	28/10/04	17/11/04	14/12/04	25/01/05	09/03/05	18/04/05	11/05/05	01/07/05	20/07/05	14/08/05	13/09/05	02/11/05	18/11/05	05/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	4.26	Dry	Dry	Dry	4.38	4.32	2.35
Borehole depth to top of casing	m	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54
Casing Top relative to Ordnance Datum	m	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53
Water level relative to Ordnance Datum	m												80.27				80.15	80.21	82.18
Calculated purge volume	litres																		
Base of well (OD)		79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99
Gas Concentrations																			
Date monitored	-	22/06/04	04/08/04	23/08/04	23/09/04	28/10/2004	17/11/2004	14/12/2004	25/01/2005	09/03/2005	18/04/2005	11/05/2005	01/07/2005	20/07/2005	14/08/2005	13/09/2005	02/11/2005	18/11/2005	05/12/2005
Time of measurement	-		11:42	1530hrs	15:00	15:00	12:10	10:50	15:10	11:10	3.00pm	12.46	10.30	5.52	4.50	15:40	10:25	12:45	13:30
Methane	% vol	<0.1	<0.1	0.1	0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	0.1	0.1	1.3	0.1	<0.1	<0.1	<0.1	1.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.4	2.3	0.1	1.1	<0.1	0.7	1.1	1.3	1.2
Oxygen	% vol	20.6	20.4	20.5	20.5	20.6	20.7	20.7	20.4	20.5	19.4	19.6	17.9	9.5	17.5	20.2	19.3	18.7	20.4
Atmospheric Pressure	mbars	1004	1011	995	1004	1009	990	990	992	1019	1010	980	995	1015	1015	998	987	1017	986
Gas Pressure	mbars	<0.1	<0.1	1	2.4	2.3	<0.1	<0.1	0.1	<0.1	2.1	<0.1	1.2	0.1	0.1	0	5.1	0	6.5
Gas Flow Rate	l/hr	<0.1		2.6	2.6	2.6	3.4	0.6	0.5	1.8	4.1	0.4	1.1	0.1	0.4	1.1	0.1	<0.1	5.4
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment		No lid to the metal casing															Valve open	Valve open	



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T14																								
Type Of Sample Required	None	09/01/06	08/02/06	09/03/06	11/04/06	03/05/06	05/06/06	13/07/06	07/08/06	08/09/06	02/10/06	06/11/06	06/12/06	09/01/07	19/02/07	06/03/07	17/04/07	15/05/07	11/06/07	17/07/07	06/08/07	10/09/07	09/10/07	16/11/07	05/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	3.96	4.26	3.33	3.19	4.33	DRY	DRY	DRY	DRY	DRY	DRY	DRY	4.32	DRY	2.55	DRY	DRY	DRY	4.23	4.24	4.29	4.25	4.27	DRY
Borehole depth to top of casing	m	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54
Casing Top relative to Ordnance Datum	m	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53
Water level relative to Ordnance Datum	m	80.57	80.27	81.20	81.34	80.20								80.21		81.98				80.30	80.29	80.24	80.28	80.26	
Calculated purge volume	litres																								
Base of well (OD)		79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99
Gas Concentrations																									
Date monitored	-	09/01/2006	08/02/2006	09/03/2006	11/04/2006	03/05/2006	05/06/2006	13/07/2006	07/08/2006	08/09/2006	02/10/2006	06/11/2006	06/12/2006	09/01/2007	19/02/2007	06/03/2007	17/04/2007	15/05/2007	11/06/2007	17/07/2007	06/08/2007	10/09/2007	09/10/2007	16/11/2007	05/12/2007
Time of measurement	-	10:48	10:27	11:15	11:45	10:22	14:25	12:50	11:55	11:20	12:50	11:45	12:00	11:30	10:00	12:00	12:15	13:20	10:40	14:00	14:10	16:10	11:25	14:30	13:00
Methane	% vol	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0	0	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	0.8	1.00	1.10	0.7	1.1	1.5	1.8	1.2	0.7	0.9	0.6	0.9	1.1	1.2	1.1	1.4	1.8	1.5	1.4	0.9	1.0	1.9	1.7	1.4
Oxygen	% vol	20.1	19.10	18.00	19.4	18.6	18.6	18.4	18.7	20.3	20.1	20.6	20.4	19.5	19.3	19.4	18.5	18.7	19.1	19.2	19.4	19.3	18.9	19.0	19.8
Atmospheric Pressure	mbars	1005	996	986	986	996	1013	1011	1008	1016	993	1008	981	972	1001	975	1012	998	1000	995	1000	1011	1014	1012	974
Gas Pressure	mbars	1.9	1.1	9.6	7.7	3.5	0.5	5.2	3.4	3	1.9	10.9	2.2	1.9	1.2	0.6	0.7	0.5	1.1	3.5	2	1.3	1.2	0.6	1.9
Gas Flow Rate	l/hr	0.5	<0.1	7.3	6.4	6.4	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-3.0	-0.5	-0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.4
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment			No cover	No cover	No cover	No cover	No cover	No cover/ Not Marked	No cover/ Not Marked	new cover															



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

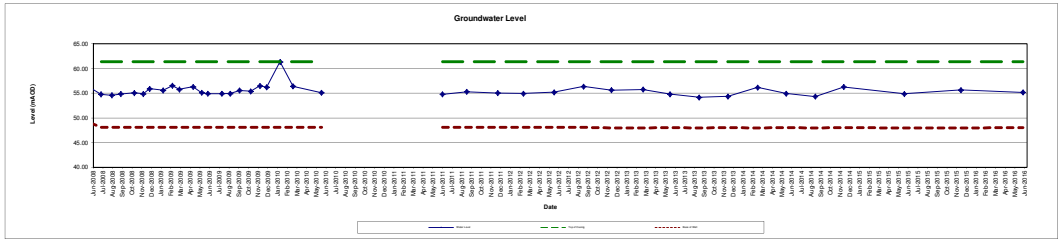
Sampling Location	**T14**																								
Type Of Sample Required	None	09/01/08	04/02/08	05/03/08	22/04/08	19/05/08	09/06/08	16/07/08	18/08/08	16/09/08	27/10/08	24/11/08	15/12/08	26/01/09	23/02/09	18/03/09	30/04/09	27/05/09	17/06/09	30/07/09	25/08/09	22/09/09	28/10/09	26/11/09	17/12/09
Determinand	Units																								
Water Level																									
Water level to top of casing	m	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	2.51	3.72	3.07	DRY	4.20	DRY	DRY	DRY	DRY	DRY	2.65	2.42	3.98
Borehole depth to top of casing	m	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54	4.54
Casing Top relative to Ordnance Datum	m	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53
Water level relative to Ordnance Datum	m												82.02	80.81	81.46		80.33						81.88	82.11	80.55
Calculated purge volume	litres												16.24	6.56	11.76		2.72						15.12	16.96	4.48
Base of well (OD)		79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99	79.99
Gas Concentrations																									
Date monitored	-	09/01/08	04/02/08	05/03/08	22/04/08	19/05/08	09/06/08	16/07/08	18/08/08	16/09/08	27/10/08	24/11/08	15/12/08	26/01/09	23/02/09	18/03/09	30/04/09	27/05/09	17/06/09	30/07/09	25/08/09	22/09/09	28/10/09	26/11/09	17/12/09
Time of measurement	-	13:00	13:05	11:40				00:00	13:55	02:52	07:12	02:24	13:12	07:12	14:08	11:45	11:30	14:59	13:46	13:30	12:10	14:53	11:14	10:29	11:02
Methane	% vol	0.0	0.0	0.4	0	0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	1.7	1.2	1.3	1.8	1.8	2.0	1.6	1.6	1.8	2.4	2.1	2.1	2.3	1.9	2.3	2.6	1.2	1.9	0.9	1.0	0.8	1.0	1.1	1.3
Oxygen	% vol	19.6	19.6	19.3	19	18.7	18.2	19.5	20.2	19.8	19.6	19.9	19.6	19.2	19.0	18.4	18.0	19.3	18.4	20.1	19.6	20.2	19.5	19.5	18.8
Atmospheric Pressure	mbars	980	1000	1006	1010	1009	1002	995	980	1007	996	1004	1008	997	1017	1023	1008	998	997	997	993	996	1003	968	1012
Gas Pressure	mbars	1	0.9	1.3	1.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.19	0.07	4.32	-3.77	0.04	0.04	-0.09	0.12	0	0.05	0	0.06	-1.1	-0.8
Gas Flow Rate	l/hr	0.6	0.2	<0.1	<0.1	-1.5	-0.4	<0.1	<0.1	<0.1	<0.1	-0.9	-6.3	2	<0.1	-3.1	-2.6	-1.8	-2.7	<0.1	<0.1	<0.1	<0.1	-2.9	-2.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment																									

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T14**				(Sept mon)		(Dec Mon)	(March Mon)																			
Type Of Sample Required	None	28/01/10	10/03/10	07/06/10	06/10/10	15/11/10	25/01/11	01/04/11	23/06/11	06/09/11	09/12/11	02/03/12	07/06/12	06/09/12	12/12/12	14/03/13	06/06/13	05/09/13	06/12/13	06/03/14	05/06/14	03/09/14	04/12/14	10/06/15	07/12/15	30/06/16
Determinand	Units																									
Water Level																										
Water level to top of casing	m	DRY	3.11	Dry	Dry				Dry	3.69	4.28	4.09	4.40	3.00	2.40	Dry	Dry	Dry	4.35	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Borehole depth to top of casing	m	4.54	4.39	4.39	4.41				4.40	4.42	4.38	4.39	4.40	4.39	4.40	4.39	4.41	4.38	4.38	4.42	4.4	4.4	4.4	4.4	4.38	4.41
Casing Top relative to Ordnance Datum	m	84.53	84.53	84.53	84.53				84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53	84.53
Water level relative to Ordnance Datum	m		81.42							80.84	80.25	80.44	80.13	81.53	82.13				80.18							
Calculated purge volume	litres																									
Base of well (OD)		79.99	79.99	79.99	79.99				79.99	79.99	79.99	79.99	79.99	79.99	80.13	80.14	80.12	80.15	80.15	80.11	80.13	80.13	80.13	80.13	80.15	80.12
Gas Concentrations																										
Date monitored	-	28/01/10	10/03/10	07/06/10	06/10/10				23/06/2011	06/09/11	09/12/12	02/03/12	07/06/2012	06/09/12	12/12/12	14/03/13	06/06/13	05/09/13	06/12/13	06/03/14	05/06/14	03/09/14	04/12/14	10/06/15	07/12/15	30/06/16
Time of measurement	-	07:40	11:50	13:24	4.41				09:02	11:59	14:01	14:17	11:47	15:43	11:21	12:52	11:44	14:08	15:33	13:46	13:53	12:20	11:08	11:42	11:45	11:48
Methane	% vol	0.0	<0.1	<0.1					<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	1.5	<0.1	3	<0.1				1.3	1.0	2.9	2.9	2.8	0.1	2.5	3.6	<0.1	0.5	1.8	1.8	0.6	1.2	2.2	2.4	2.7	1.5
Oxygen	% vol	18.7	20.6	16.5	20.5				20.0	19.6	17.8	17.2	17.1	20.6	19.3	17.1	20.5	20.4	20	19.2	20.2	19.3	18.4	16.6	20.4	20.2
Atmospheric Pressure	mbars	1009	1023	1000	988				1002	976	995	1017	992	1003	1006	1001	1015	1003	1019	1005	998	1015	1009	1022	1010	993
Gas Pressure	mbars	-1.1	+/-0.01	-0.02	+/-0.01				0.00	0.01	<0.1	0.08	<0.01	<0.01	0.19	-0.03	0.1	0.07	0.11	-0.12	-0.17	-0.14	0.06	0.04	-0.06	<0.01
Gas Flow Rate	l/hr	0	+/-0.1	-0.1	+/-0.1				<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	-0.1	0.1	0.1	0.1	<0.1	0.2	<0.1
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	ºC																									
Comment						Visit not undertaken due to adverse weather	Cover seized / unable to monitor	Cover seized / unable to monitor					Padlock removed - key did not fit. Borehole dry.														

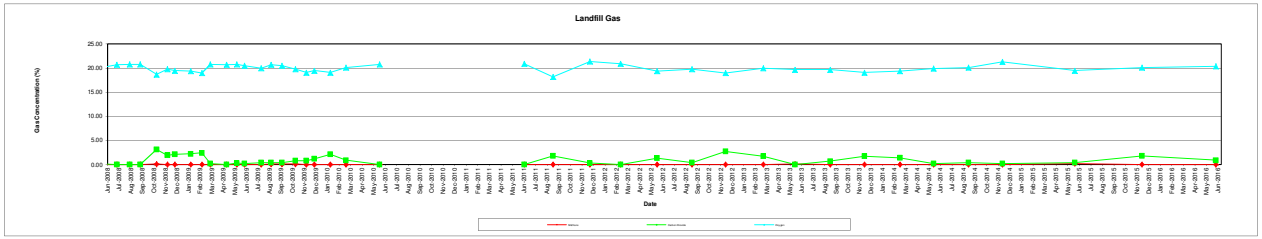
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T15																		
Type Of Sample Required	Groundwater	22/06/04	22/07/04	23/08/04	23/09/04	28/10/04	17/11/04	14/12/04	25/01/05	09/03/05	18/04/05	11/05/05	01/07/05	20/07/05	14/08/05	13/09/05	02/11/05	18/11/05	07/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m										4.31	4.40	5.20	6.41	6.80	6.81	7.48	7.53	7.18
Borehole depth to top of casing	m										13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28
Casing Top relative to Ordnance Datum	m										61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36
Water level relative to Ordnance Datum	m										57.05	56.96	56.16	54.95	54.56	54.55	53.88	53.83	54.18
Calculated purge volume	litres																		
Base of well (OD)											48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08
Gas Concentrations																			
Date monitored	-	22/06/2004	22/07/2004	23/08/2004	23/09/2004	28/10/2004	17/11/2004	14/12/2004	25/01/2005	09/03/2005	18/04/2005	11/05/2005	01/07/2005	20/07/2005	14/08/2005	13/09/2005	02/11/2005	18/11/2005	07/12/2005
Time of measurement	-										3.45pm	14.00	12.00	6.36	5.35	07:00	10:52	12:32	10:58
Methane	% vol										<0.1	0.1	1.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol										<0.1	3.1	0.1	0.1	<0.1	0.1	1	0.7	0.9
Oxygen	% vol										20.1	18.5	14.4	17.1	15.6	19.6	19.2	19.8	19.6
Atmospheric Pressure	mbars										1010	1010	995	1015	1015	999	989	1019	1004
Gas Pressure	mbars										1.1	0.1	1.1	0.1	0.2	1.1	3.5	1.3	1.8
Gas Flow Rate	l/hr										2.1	0.1	0.1	1.1	0.1	0.1	0.1	<0.1	0.9
Insitu Liquid Determinations																			
pH	pH units										8.21	6.99	6.61		7.04	6.21			
Electrical Conductivity	µS/cm										2670	3230	5410		5180	7300			
Dissolved Oxygen	mg/l										62.1	15	1.3		6.4	13.1			
Temperature	ºC										8.9	10	10		10.3	14			
Comment		Lock ceased, could not access	Unable to acces no key	Unable to accesss	Unable to access	Unable to accesss	Unable to accesss	Unable to accesss	Unable to Access	Unable to Access									



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T15																								
Type Of Sample Required	Groundwater	09/01/06	08/02/06	10/03/06	11/04/06	03/05/06	07/06/06	13/07/06	07/08/06	06/09/06	02/10/06	06/11/06	06/12/06	09/01/07	19/02/07	07/03/07	17/04/07	15/05/07	11/06/07	17/07/07	06/08/07	10/09/07	09/10/07	16/11/07	06/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	5.19	5.73	5.87	4.73	5.51	6.12	6.57	6.51	6.64	6.49	6.97	5.55	5.50	5.54	4.61	4.63	4.64	6.46	5.54	5.54	5.97	5.96	6.81	6.73
Borehole depth to top of casing	m	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28
Casing Top relative to Ordnance Datum	m	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36
Water level relative to Ordnance Datum	m	56.17	55.63	55.49	56.63	55.85	55.24	54.79	54.85	54.72	54.87	54.39	55.81	55.86	55.82	56.75	56.73	56.72	54.90	55.82	55.82	55.39	55.40	54.55	54.63
Calculated purge volume	litres						38.00	N/A	N/A		N/A		63.00	N/A	N/A	72.00	N/A	N/A	56.00	N/A	N/A	60.00	N/A	N/A	52.00
Base of well (OD)		48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08
Gas Concentrations																									
Date monitored	-	09/01/2006	08/02/2006	10/03/2006	11/04/2006	03/05/2006	07/06/2006	13/07/2006	07/08/2006	06/09/2006	02/10/2006	06/11/2006	06/12/2006	09/01/2007	19/02/2007	07/03/2007	17/04/2007	15/05/2007	11/06/2007	17/07/2007	06/08/2007	10/09/2007	09/10/2007	16/11/2007	06/12/2007
Time of measurement	-	13:05	12:38	11:00	14:10	11:48	12:00	12:08	11:31	16:20	15:10	15:40	14:48	14:28	12:20	13:20	15:45	14:40	14:00	12:00	13:10	14:00	15:15	10:40	11:55
Methane	% vol	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0	0	0.0	0.2	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	1.1	0.90	0.20	0.7	0.1	0.4	0.1	0.2	0.3	0.4	1.1	1	1.5	1.2	0.7	0.9	1.1	0.8	0.9	0.5	1.5	1.7	2.6	2.5
Oxygen	% vol	19.5	19.70	19.70	19.3	20.2	20.5	20.6	20.5	20.4	20.3	19.9	19.7	19.1	19.4	20.3	20.2	20.1	19.7	19.2	19.7	18.3	18.7	18.9	18.9
Atmospheric Pressure	mbars	1007	999	994	987	996	1016	1014	1011	999	994	1008	984	978	1004	991	1014	1002	1011	996	1001	1012	1015	1016	983
Gas Pressure	mbars	0	0.3	0.7	0.9	0.4	1.1	-1.6	0.9	0.5	<0.1	1.1	1.7	0.9	1.2	2.7	1.8	1.1	2.2	2.9	0.9	<0.1	<0.1	0.9	0.7
Gas Flow Rate	l/hr	0.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
													11/12/2006												
Insitu Liquid Determinations													12:00												
pH	pH units			6			7.36						6.59			6.26			5.61			6.14			6.49
Electrical Conductivity	µS/cm			224.3			350						401			440			445			260.5			292.4
Dissolved Oxygen	mg/l			9.55			9.51						2.92			1.87			1.98			10.09			10.84
Temperature	℃			7.6			9.3						9.4			8.5			9.4			9.8			9.5
Comment																									



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

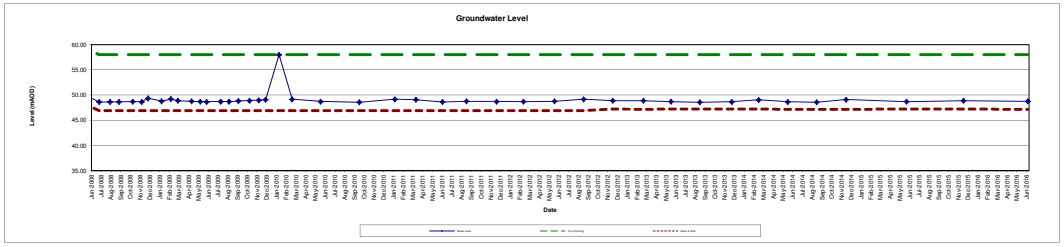
Sampling Location	**T15**																								
Type Of Sample Required	Groundwater	10/01/08	05/02/08	06/03/08	22/04/08	19/05/08	09/06/08	15/07/08	18/08/08	15/09/08	28/10/08	25/11/08	15/12/08	26/01/09	24/02/09	18/03/09	30/04/09	27/05/09	16/06/09	30/07/09	25/08/09	23/09/09	28/10/09	26/11/09	17/12/09
Determinand	Units																								
Water Level																									
Water level to top of casing	m	6.72	6.73	5.75	6.19	5.38	6.14	6.58	6.77	6.53	6.28	6.47	5.45	5.77	4.81	5.56	5.04	6.27	6.45	6.44	6.42	5.79	5.95	4.87	5.14
Borehole depth to top of casing	m	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28	13.28
Casing Top relative to Ordnance Datum	m	61.36	61.36	61.36	61.36	61.36	62.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36
Water level relative to Ordnance Datum	m	54.64	54.63	55.61	55.17	55.98	56.22	54.78	54.59	54.83	55.08	54.89	55.91	55.59	56.55	55.80	56.32	55.09	54.91	54.92	54.94	55.57	55.41	56.49	56.22
Calculated purge volume	litres	52	52	60	57	63	57	54	52	54	56.00	54.48	62.64	60.08	67.76	61.76	65.92	56.08	54.64	54.72	54.88	59.92	58.64	67.28	65.12
Base of well (OD)		48.08	48.08	48.08	48.08	48.08	49.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08	48.08
Gas Concentrations																									
Date monitored	-	10/01/2008	05/02/2008	06/03/2008	22/04/2008	19/05/2008	09/06/2008	15/07/2008	18/08/2008	15/09/2008	28/10/2008	25/11/2008	15/12/2008	26/01/2009	24/02/2009	18/03/2009	30/04/2009	27/05/2009	16/06/2009	30/07/2009	25/08/2009	23/09/2009	28/10/2009	26/11/2009	17/12/2009
Time of measurement	-	11:55	12:00	11:30				00:00	15:35	13:40	06:14	00:43	08:38	10:04	13:04	14:51	14:00	16:51	14:53	11:16	14:19	14:39	14:26	10:14	10:45
Methane	% vol	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0.1	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
Carbon Dioxide	% vol	2.1	2.8	0.7	2.1	0	0.1	0.0	0.0	0.0	3.1	1.9	2.1	2.2	2.4	0.2	0.0	0.3	0.2	0.4	0.4	0.4	0.8	0.8	1.2
Oxygen	% vol	18.8	19.0	20.0	19.2	20.9	20.2	20.7	20.8	20.8	18.7	19.8	19.5	19.4	19.0	20.8	20.7	20.8	20.5	20.0	20.7	20.5	19.8	19.1	19.5
Atmospheric Pressure	mbars	975	999	1001	1010	1013	1006	999	981	1009	1002	1019	1010	1001	1023	1023	1008	1001	1017	1003	993	1007	1006	971	1015
Gas Pressure	mbars	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.02	0.13	0.01	0.02	0	-0.01	0	-0.01	0	0	-0.02	0.01	0.01	-0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	-0.2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.01
Insitu Liquid Determinations																									
pH	pH units	6.44	6.58	6.79	6.8	5.9	7.6	6.2				7.1	0	6.78	6.3		6.3	6.2		7.3	6		6.7	6.1	6.5
Electrical Conductivity	µS/cm	356	264	331.2	301	279	283	298				298	0	280	288		273	267		279	272		227	274	265
Dissolved Oxygen	mg/l	8.82	9.62	8.57				0				0	0	6.31	9.96										
Temperature	ºC	9.2	9.3	9.8	7.0	9.0	8.0	6.0				6	0	8.16	8.15		6	7		7	7		7	8	7
Comment																									

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T15**				(Sept mon)	(Dec Mon)	(March Mon)																		
Type Of Sample Required	Groundwater	28/01/10	10/03/10	07/06/10	06/10/10	25/01/11	01/04/11	22/06/11	06/09/11	12/12/11	02/03/12	06/06/12	06/09/12	03/12/12	12/03/13	04/06/13	04/09/13	03/12/13	06/03/14	03/06/14	03/09/14	01/12/14	09/06/15	04/12/15	15/06/16
Determinand	Units																								
Water Level																									
Water level to top of casing	m	0.00	4.97	6.27				6.57	6.06	6.31	6.41	6.15	5.00	5.74	5.62	6.54	7.19	6.99	5.18	6.41	7.03	5.09	6.49	5.69	6.2
Borehole depth to top of casing	m	13.28	13.42	13.41					13.49	13.40	13.39	13.43	13.40	13.38	13.37	13.34	13.38	13.36	13.39	13.35	13.38	13.36	13.43	13.41	13.34
Casing Top relative to Ordnance Datum	m	61.36	61.36	61.36				61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36	61.36
Water level relative to Ordnance Datum	m	61.36	56.39	55.09				54.79	55.30	55.05	54.95	55.21	56.36	55.62	55.74	54.82	54.17	54.37	56.18	54.95	54.33	56.27	54.87	55.67	55.16
Calculated purge volume	litres	106.24																							
Base of well (OD)		48.08	48.08	48.08				48.08	48.08	48.08	48.08	48.08	48.08	47.98	47.99	48.02	47.98	48.00	47.97	48.01	47.98	48.00	47.93	47.95	48.02
Gas Concentrations																									
Date monitored	-	28/01/2010	10/03/2010	07/06/2010				22/06/2011	06/09/11	12/12/12	02/03/12	06/06/2012	06/09/12	03/12/12	12/03/13	04/06/13	04/09/13	03/12/13	06/03/14	03/06/14	03/09/14	01/12/14	09/06/15	04/12/15	15/06/16
Time of measurement	-	03:07	12:25	15:23				12:40	11:09	10:13	13:00	13:12	14:41	14:50	15:55	12:44	15:36	11:28	14:28	12:17	11:00	14:12	11:29	12:11	12:12
Methane	% vol	0.0	<0.1	<0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	2.1	0.9	<0.1				<0.1	1.8	0.3	<0.1	1.3	0.4	2.7	1.7	<0.1	0.7	1.7	1.4	0.2	0.4	0.2	0.4	1.8	0.9
Oxygen	% vol	19.1	20.1	20.8				20.9	18.2	21.4	20.9	19.4	19.8	19.0	20	19.7	19.7	19.1	19.4	19.9	20.1	21.3	19.5	20.1	20.4
Atmospheric Pressure	mbars	1012	1023	1002				1000	979	987	1021	995	1006	989	1006	1024	1008	1011	1009	1002	1019	1002	1030	1004	995
Gas Pressure	mbars	0.08	+/-0.01	0.56				0.00	-0.01	<0.1	0.13	0.17	<0.01	-0.33	-0.02	<0.01	-0.02	-0.1	-0.1	0.09	-0.06	-0.09	-0.03	<0.01	-0.15
Gas Flow Rate	l/hr	0	+/-0.1	+/-0.1				<0.1	NR	<0.1	-0.1	<0.1	0.2	0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.1	<0.1	0.3	0.1	-0.1	-0.1
Insitu Liquid Determinations																									
pH	pH units									6.2		6.1		6.2		6.0		6.1		5.6		5.8	6.3	6.0	6
Electrical Conductivity	µS/cm									215		270		225		240		220		230		225	245	235	250
Dissolved Oxygen	mg/l									10.4		10.6		10.4		10.1		11.2		10.3		11.4	10.2	10.6	10.0
Temperature	℃									8.1		8.4		8.3		9.0		8.9		9.8		9.2	9.5	8.9	8.4
Comment					Cover damaged, could not remove bolt for access	Cover seized / unable to monitor	Cover seized / unable to monitor		Cap loose - no seal	Cap completely loose - no seal	No bung or gas tap present	Padlock removed - key did not fit														

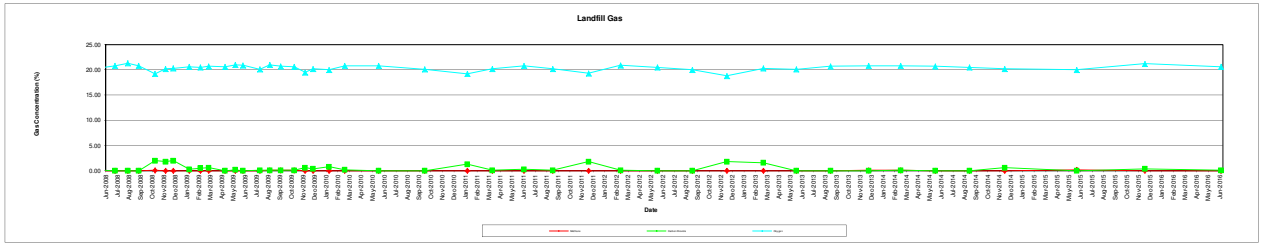
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T16a**																		
Type Of Sample Required	None	21/06/04	04/08/04	24/08/04	23/09/04	28/10/04	17/11/04	14/12/04	25/01/05	09/03/05	18/04/05	11/05/05	01/07/05	21/07/05	14/08/05	13/09/05	02/11/05	18/11/05	07/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	8.42	9.30	8.46	8.47	8.49	8.48	8.46	8.44	8.47	5.27	5.46	6.10	8.47	9.50	9.22	9.46	9.48	9.34
Borehole depth to top of casing	m	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06
Casing Top relative to Ordnance Datum	m	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98
Water level relative to Ordnance Datum	m	49.56	48.68	49.52	49.51	49.49	49.50	49.52	49.54	49.51	52.71	52.52	51.88	49.51	48.48	48.76	48.52	48.50	48.64
Calculated purge volume	litres																		
Base of well (OD)		46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92
Gas Concentrations																			
Date monitored	-	21/06/2004	04/08/2004	24/08/2004	23/09/2004	28/10/2004	17/11/2004	14/12/2004	25/01/2005	09/03/2005	18/04/2005	11/05/2005	01/07/2005	21/07/2005	14/08/2005	13/09/2005	02/11/2005	18/11/2005	07/12/2005
Time of measurement	-		16:00	1655hrs	15:10	15:10	12:30	11:00	15:20	11:15	4.20pm	2.45	2.00	8.21	6.27	07:45	11:02	12:23	11:09
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	0.1	<0.1	0.1	1.2	1.3	1.1	9.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.3	0.4	0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	2.2	7.4	1.1	1.1	2.1	4.1	0.5	0.9	1.1
Oxygen	% vol	20.2	20.6	20.4	20.4	20.3	20.3	20.1	20	20.2	20.2	21.1	17.6	11.2	9.9	11.9	19.8	19.1	19.9
Atmospheric Pressure	mbars	1004	1010	996	1004	1008	990	990	991	1019	1010	1010	995	1019	1015	998	990	1020	1004
Gas Pressure	mbars	<0.1	<0.1	2.5	2.5	2.6	2.1	<0.1	<0.1	<0.1	2.3	<0.1	<0.1	<0.1	0.1	0	3.6	0	3.9
Gas Flow Rate	l/hr	<0.1		2.7	3	3.1	3.2	0.8	0.8	1.6	3.1	0.4	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment																			



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T16a**																									
Type Of Sample Required	None	09/01/06	08/02/06	10/03/06	11/04/06	03/05/06	07/06/06	13/07/06	07/08/06	06/09/06	02/10/06	06/11/06	06/12/06	09/01/07	19/02/07	07/03/07	17/04/07	15/05/07	11/06/07	17/07/07	06/08/07	10/09/07	09/10/07	16/11/07	06/12/07
Determinand	Units																									
Water Level																										
Water level to top of casing	m	8.93	9.19	9.22	8.72	9.13	9.29	9.34	9.35	9.32	9.34	9.07	8.87	8.85	8.85	8.76	8.78	8.78	9.32	9.00	9.02	9.12	9.09	9.37	8.51
Borehole depth to top of casing	m	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06
Casing Top relative to Ordnance Datum	m	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98
Water level relative to Ordnance Datum	m	49.05	48.79	48.76	49.26	48.85	48.69	48.64	48.63	48.66	48.64	48.91	49.11	49.13	49.13	49.22	49.20	49.20	48.66	48.98	48.96	48.86	48.89	48.61	49.47
Calculated purge volume	litres																								
Base of well (OD)		46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92
Gas Concentrations																										
Date monitored	-	09/01/2006	08/02/2006	10/03/2006	11/04/2006	03/05/2006	07/06/2006	13/07/2006	07/08/2006	06/09/2006	02/10/2006	06/11/2006	06/12/2006	09/01/2007	19/02/2007	07/03/2007	17/04/2007	15/05/2007	11/06/2007	17/07/2007	06/08/2007	10/09/2007	09/10/2007	16/11/2007	06/12/2007
Time of measurement	-	12:59	12:45	11:40	14:20	11:55	12:45	12:17	11:24	16:12	15:18	15:45	14:55	14:35	12:28	15:30	15:30	14:55	14:45	12:12	13:20	14:40	15:30	10:50	12:30
Methane	% vol	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0	0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	0.7	1.00	0.40	0.8	0.1	0.4	0.4	0.4	0.2	0.4	0.8	1.2	1.3	1.1	1.8	2.1	2.9	0.6	0.6	0.8	1.0	1.5	1.7	2.2
Oxygen	% vol	20.3	20.20	19.70	20.0	20.5	20.7	20.3	20.2	20.4	20.3	20.3	19.8	19.6	19.9	19.5	19.4	19.0	20.3	19.7	19.6	19.4	19.1	19.8	19.9
Atmospheric Pressure	mbars	1008	999	995	987	997	1016	1015	1012	1000	994	1008	984	978	1004	991	1014	1002	1010	997	1002	1012	1015	1016	983
Gas Pressure	mbars	1.3	0.4	0.6	<0.1	0.5	0.4	1	0.8	1.2	0.3	0.4	0.5	0.3	0.8	0.5	0.4	<0.1	1.3	2	0.8	0.3	<0.1	0.2	<0.1
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment																									



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

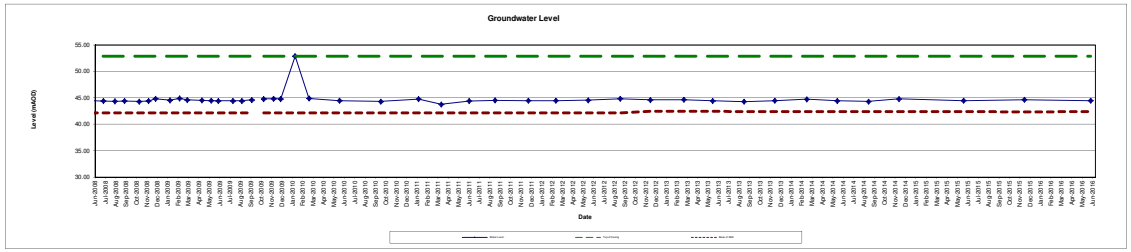
Sampling Location	**T16a**																								
Type Of Sample Required	None	10/01/08	05/02/08	06/03/08	22/04/08	19/05/08	09/06/08	15/07/08	18/08/08	15/09/08	28/10/08	25/11/08	15/12/08	26/01/09	24/02/09	18/03/09	30/04/09	27/05/09	16/06/09	30/07/09	25/08/09	23/09/09	28/10/09	26/11/09	17/12/09
Determinand	Units																								
Water Level																									
Water level to top of casing	m	8.49	8.51	8.54	9.23	9.19	9.22	9.34	9.36	9.31	9.27	9.32	8.63	9.18	8.76	9.11	9.21	9.27	9.31	9.26	9.30	9.14	9.05	9.01	8.92
Borehole depth to top of casing	m	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06	11.06
Casing Top relative to Ordnance Datum	m	57.98	57.98	57.98	57.98	57.98	58.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98
Water level relative to Ordnance Datum	m	49.49	49.47	49.44	48.75	48.79	49.76	48.64	48.62	48.67	48.71	48.66	49.35	48.80	49.22	48.87	48.77	48.71	48.67	48.72	48.68	48.84	48.93	48.97	49.06
Calculated purge volume	litres							13.76	13.60	14.00	14.32	13.92	19.44	15.04	18.40	15.60	14.80	14.32	14.00	14.40	14.08	15.36	16.08	16.40	17.12
Base of well (OD)		46.92	46.92	46.92	46.92	46.92	47.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92
Gas Concentrations																									
Date monitored	-	10/01/2008	05/02/2008	06/03/2008	22/04/2008	19/05/2008	09/06/2008	15/07/2008	18/08/2008	15/09/2008	28/10/2008	25/11/2008	15/12/2008	26/01/2009	24/02/2009	18/03/2009	30/04/2009	27/05/2009	16/06/2009	30/07/2009	25/08/2009	23/09/2009	28/10/2009	26/11/2009	17/12/2009
Time of measurement	-	12:20	12:20	12:05				00:00	16:00	12:00	08:24	02:52	11:31	12:14	13:12	14:14	14:10	17:11	15:01	11:24	15:26	09:14	14:34	10:09	10:37
Methane	% vol	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0.1	0	0	0	0	0	0	0	0	0	0.1	0.1	0.1	0	0
Carbon Dioxide	% vol	2.6	1.9	2.4	1.5	0.9	0.1	0.0	0.0	0.0	2	1.8	2	0.3	0.5	0.6	0	0.2	0	0.1	0.1	0.1	0.1	0.6	0.4
Oxygen	% vol	19.8	19.8	19.7	20.6	20.6	20.4	20.8	21.3	20.8	19.2	20.2	20.3	20.6	20.5	20.7	20.6	21	20.9	20.1	21	20.7	20.6	19.5	20.2
Atmospheric Pressure	mbars	975	999	1001	1010	1013	1007	999	982	1009	1001	1019	1011	1001	1023	1024	1008	1002	1016	1003	993	1007	1006	972	1015
Gas Pressure	mbars	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.07	1.65	1.14	-0.03	0.01	-0.05	0.02	0	0	0.05	0.03	-0.03	0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment																									

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T16a**				(Sept mon)	(Dec Mon)	(March Mon)																		
Type Of Sample Required	None	28/01/10	10/03/10	07/06/10	06/10/10	25/01/11	01/04/11	23/06/11	06/09/11	09/12/11	02/03/12	07/06/12	06/09/12	06/12/12	12/03/13	06/06/13	04/09/13	12/12/13	06/03/14	05/06/14	03/09/14	04/12/14	11/06/15	07/12/15	24/06/16
Determinand	Units																								
Water Level																									
Water level to top of casing	m	0.00	8.82	9.24	9.40	8.82	8.90	9.33	9.21	9.26	9.27	9.23	8.82	9.09	9.09	9.29	9.41	9.32	8.94	9.32	9.4	8.86	9.29	9.08	9.23
Borehole depth to top of casing	m	11.06	10.78	10.78	10.80	10.75	10.75	10.75	10.77	10.81	10.77	10.78	10.77	10.78	10.79	10.76	10.77	10.74	10.78	10.79	10.8	10.8	10.77	10.75	10.81
Casing Top relative to Ordnance Datum	m	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98	57.98
Water level relative to Ordnance Datum	m	57.98	49.16	48.74	48.58	49.16	49.08	48.65	48.77	48.72	48.71	48.75	49.16	48.89	48.89	48.69	48.57	48.66	49.04	48.66	48.58	49.12	48.69	48.90	48.75
Calculated purge volume	litres	88.48																							
Base of well (OD)		46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	46.92	47.20	47.19	47.22	47.21	47.24	47.20	47.19	47.18	47.18	47.21	47.23	47.17
Gas Concentrations																									
Date monitored	-	28/01/2010	10/03/2010	07/06/2010	06/10/2010	25/01/2011	01/04/2011	23/06/2011	06/09/11	09/12/12	02/03/12	07/06/2012	06/09/12	06/12/12	12/03/13	06/06/13	04/09/13	12/12/13	06/03/14	05/06/14	03/09/14	04/12/14	11/06/15	07/12/15	24/06/16
Time of measurement	-	04:33	12:20	15:41	13:29		16:55	10:03	10:44	12:34	12:42	11:03	14:11	11:43	15:45	11:18	15:41	13:56	14:08	14:03	11:06	11:41	12:05	12:03	11:40
Methane	% vol	0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	0.8	0.2	<0.1	<0.1	1.3	0.1	0.3	0.1	1.8	0.1	<0.1	<0.1	1.8	1.6	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.6	<0.1	0.4	0.1
Oxygen	% vol	20	20.8	20.8	20.1	19.2	20.2	20.8	20.2	19.3	20.9	20.5	20.0	18.8	20.3	20.1	20.7	20.8	20.8	20.7	20.5	20.2	20	21.2	20.6
Atmospheric Pressure	mbars	1012	1023	1003	990	1010	999	1003	980	997	1021	995	1007	994	1007	1019	1008	1010	1008	1001	1018	1013	1015	1012	1007
Gas Pressure	mbars	0.05	0.05	+/-0.01	0.02	-0.92	-0.09	0.00	<0.01	<0.1	0.13	<0.01	<0.01	-0.11	-0.02	-0.03	-0.05	-0.1	-0.11	-0.16	-0.06	0.04	-0.11	-0.03	0.14
Gas Flow Rate	l/hr	0	+/-0.1	+/-0.1	+/-0.1	-0.4	0	<0.1	<0.1	<0.1	-0.1	0.2	0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment																									

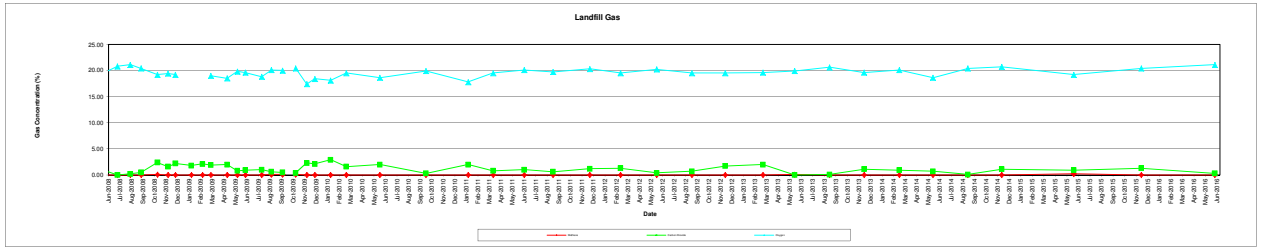
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T17**																		
Type Of Sample Required	Groundwater	21/06/04	04/08/04	24/08/04	24/09/04	28/10/04	17/11/04	14/12/04	25/01/05	09/03/05	18/04/05	11/05/05	01/07/05	21/07/05	14/08/05	13/09/05	02/11/05	18/11/05	07/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	8.42	8.50	8.56	8.57	8.57	8.60	8.50	8.51	8.50	4.32	8.15	7.68	9.21	8.20	8.52	8.91	8.85	8.60
Borehole depth to top of casing	m	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75
Casing Top relative to Ordnance Datum	m	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88
Water level relative to Ordnance Datum	m	44.46	44.38	44.32	44.31	44.31	44.28	44.38	44.37	44.38	48.56	44.73	45.20	43.67	44.68	44.36	43.97	44.03	44.28
Calculated purge volume	litres	55.92																	
Base of well (OD)		42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13
Gas Concentrations																			
Date monitored	-	21/06/04	04/08/04	24/08/04	24/09/04	28/10/04	17/11/04	14/12/04	25/01/05	09/03/05	18/04/05	11/05/05	01/07/05	21/07/05	14/08/05	13/09/05	02/11/05	18/11/05	07/12/05
Time of measurement	-		16:30	1640hrs	08:00	15:15	12:40	11:05	15:30	12:30	5.40pm	3.20	4.45	9.36	7.21	06:35	11:13	12:14	11:14
Methane	% vol	<0.1	<0.1	0.1	0.2	0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	1.1	0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.5	0.3	<0.1	0.2	0.1	0.7	<0.1	<0.1	1	0.9	<0.1	<0.1	0.1	0.1	<0.1	0.3	0.7	0.9
Oxygen	% vol	19.9	20.2	20.5	20.5	20.5	20.2	20.9	20.8	19.3	20.4	20.9	19.4	9.9	8.6	10	20	19.3	20
Atmospheric Pressure	mbars	1003	1010	999	1019	1010	994	993	991	1021	1010	1015	996	1019	1015	999	990	1021	1005
Gas Pressure	mbars	0.0	<0.1	2.6	<0.1	<0.1	2.7	1.7	1.5	1	1.1	1.1	<0.1	1.1	0.1	0	5	2.4	4.2
Gas Flow Rate	l/hr	<0.1		2.7	3.4	3	3.3	0.5	0.4	1.2	0.2	0.1	0.1	0.1	0.1	0.3	0.1	0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units	6.4						6.7		6.55	7.6	7.1	7.81			6.71			6.85
Electrical Conductivity	µS/cm	764						717		998	783	5500	2765			5850			469
Dissolved Oxygen	mg/l	7.21						48.6		51.4	41.6	1.8	5.8			7.38			5.35
Temperature	ºC	13.3						8.5		9	8.4	10	10			13.6			9.7
Comment					Watera tubing jammed. Unable to retrieve		Not required												



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T17																								
Type Of Sample Required	Groundwater	09/01/06	08/02/06	09/03/06	11/04/06	03/05/06	07/06/06	13/07/06	07/08/06	06/09/06	02/10/06	06/11/06	06/12/06	09/01/07	19/02/07	14/03/07	17/04/07	15/05/07	11/06/07	17/07/07	06/08/07	10/09/07	09/10/07	16/11/07	06/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	8.26	8.36	8.42	8.07	8.31	8.47	9.52	9.48	8.60	9.45	8.56	8.20	8.19	8.20	8.06	8.37	8.40	8.51	8.29	8.29	8.40	8.39	8.56	8.54
Borehole depth to top of casing	m	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75
Casing Top relative to Ordnance Datum	m	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88
Water level relative to Ordnance Datum	m	44.62	44.52	44.46	44.81	44.57	44.41	43.36	43.40	44.28	43.43	44.32	44.68	44.69	44.68	44.82	44.51	44.48	44.37	44.59	44.59	44.48	44.49	44.32	44.34
Calculated purge volume	litres						12.00	N/A	N/A	16.00	N/A	N/A	18.00	N/A	N/A	21.00	N/A	N/A	16.00	N/A	N/A	16.00	N/A	N/A	10.00
Base of well (OD)		42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13
Gas Concentrations																									
Date monitored	-	09/01/06	08/02/06	09/03/06	11/04/06	03/05/06	07/06/06	13/07/06	07/08/06	06/09/06	02/10/06	06/11/06	06/12/06	09/01/07	19/02/07	14/03/07	17/04/07	15/05/07	11/06/07	17/07/07	06/08/07	10/09/07	09/10/07	16/11/07	06/12/07
Time of measurement	-	12:53	12:28	15:41	14:30	11:40	14:00	11:53	11:05	16:05	15:23	16:05	15:15	14:50	12:40	12:00	15:15	15:10	13:00	12:20	13:28	15:20	15:50	11:05	13:30
Methane	% vol	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0	0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	0.9	0.90	1.00	1.0	1.1	1.2	1.4	1.2	0.2	0.3	0.9	1.2	1.4	1.2	1.3	1.2	1.3	1.2	1.5	1.1	1.7	2.0	1.1	1.1
Oxygen	% vol	19.5	19.40	18.00	17.9	18.2	19.4	19.5	19.2	20.6	20.5	20.3	19.5	19.4	19.4	19.5	18.9	18.7	19.5	18.0	18.5	18.7	18.8	20.2	19.9
Atmospheric Pressure	mbars	1009	1000	987	988	998	1016	1015	1012	1000	994	1009	986	978	1005	1022	1014	1002	1012	997	1002	1013	1015	1016	981
Gas Pressure	mbars	1.8	0.5	1.6	1.1	1.7	1.1	-1.1	0.4	3.3	1.8	1.1	1.5	1.1	1.4	0.9	1.5	2.1	2.3	1.3	1.1	<0.1	<0.1	0.5	0.6
Gas Flow Rate	l/hr	0.4	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	0.8	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5
													11/12/2006												
Insitu Liquid Determinations													12:30												
pH	pH units			5.96			6.67			6.5			6.52			6.34			6.05			6.21			6.17
Electrical Conductivity	µS/cm			504			709			971			930			636			503			554			638
Dissolved Oxygen	mg/l			6.61			5.16			7.62			2.26			1.73			2.32			9.14			8.5
Temperature	℃			7.9			10.3			9.4			9.2			9.3			10			9.6			9.4
Comment																									



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

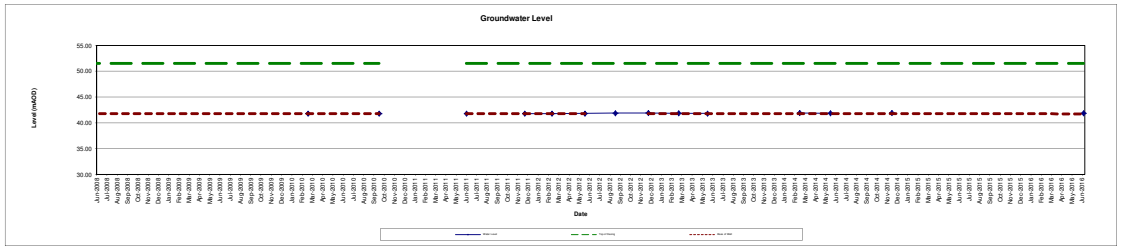
Sampling Location	**T17**																										
Type Of Sample Required	Groundwater	10/01/08	05/02/08	05/03/08	22/04/08	19/05/08	09/06/08	15/07/08	18/08/08	15/09/08	28/10/08	25/11/08	15/12/08	26/01/09	24/02/09	18/03/09	30/04/09	27/05/09	17/06/09	30/07/09	25/08/09	23/09/09	28/10/09	28/10/09	26/11/09	17/12/09
Determinand	Units																										
Water Level																											
Water level to top of casing	m	8.52	8.54	8.34	8.42	8.32	8.42	8.50	8.54	8.50	8.58	8.48	8.05	8.32	8.01	8.26	8.36	8.43	8.46	8.46	8.46	8.28		8.10	8.06	8.10
Borehole depth to top of casing	m	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75		10.75	10.75	10.75
Casing Top relative to Ordnance Datum	m	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88		52.88	52.88	52.88
Water level relative to Ordnance Datum	m	44.36	44.34	44.54	44.46	44.56	44.46	44.38	44.34	44.38	44.30	44.40	44.83	44.56	44.87	44.62	44.52	44.45	44.42	44.42	44.42	44.60		44.78	44.82	44.78
Calculated purge volume	litres	18	18	19	19	19	19	18	18	18	17.36	18.16	21.60	19.44	21.92	19.92	19.12	18.56	18.32	18.32	18.32	19.76		21.20	21.52	21.20
Base of well (OD)		42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13		42.13	42.13	42.13
Gas Concentrations																											
Date monitored	-	10/01/08	05/02/08	05/03/08	22/04/08	19/05/08	09/06/08	15/07/08	18/08/08	15/09/08	28/10/08	25/11/08	15/12/08	26/01/09	24/02/09	18/03/09	30/04/2009	27/05/2009	17/06/2009	30/07/2009	25/08/2009	23/09/2009		28/10/2009	26/11/2009	17/12/2009
Time of measurement	-	12:40	12:35	15:55				00:00	15:51	08:38	10:19	04:33	13:12	13:40	13:18	15:23	14:20	17:04	11:13	11:35	15:33	15:03		14:40	10:03	10:32
Methane	% vol	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0.1	0	0	0	0	0	0	0	0	0	0.1	0.1		0.1	0	0
Carbon Dioxide	% vol	1.4	1.6	1.1	1.7	1.8	0.9	0.0	0.2	0.5	2.4	1.6	2.2	1.8	2.1	1.9	2	0.8	0.9	1	0.6	0.5		0.4	2.3	2.1
Oxygen	% vol	19.6	19.2	19.2	19.1	19	19.5	20.8	21.1	20.4	19.2	19.4	19.2			19	18.5	19.8	19.6	18.8	20.1	20		20.4	17.4	18.4
Atmospheric Pressure	mbars	975	999	1007	1010	1013	1007	1000	983	1010	1001	1020	1012	1002	1024	1025	1009	1003	1005	1003	995	1007		1007	973	1015
Gas Pressure	mbars	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0	0.06	-0.01	-0.04	-0.02	0.04	-0.01	0.03	0.03	0	0.03		0.01	-0.01	0.03
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1
Insitu Liquid Determinations																											
pH	pH units	6.28	6.36	6.74	7.4	6	6.7	6.5				7.8	0	6.15	6.29		6.5	6.4		7.9	6.3		6.7		6.4	6.8
Electrical Conductivity	µS/cm	549	512	623	598	533	589	642				663	0	602	499		602	601		652	602		485		546	575
Dissolved Oxygen	mg/l	7.78	8.14	7.64				0				0	0	4.04	7.27											
Temperature	ºC	9.2	9.3	9.6	8	10	7	7				6	0	8.59	8.93		7	7		8	7		7		7	7
Comment																											

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T17**				(Sept mon)	(Dec Mon)	(March Mon)																			
Type Of Sample Required	Groundwater	28/01/10	10/03/10	07/06/10	06/10/10	25/01/11	01/04/11	22/06/11	06/09/11	12/12/11	02/03/12	05/06/12	06/09/12	03/12/12	12/03/13	04/06/13	04/09/13	03/12/13	06/03/14	03/06/14	03/09/14	01/12/14	09/06/15	04/12/15	15/06/16
Determinand	Units																								
Water Level																									
Water level to top of casing	m	0.00	8.01	8.42	8.58	8.12	9.12	8.50	8.37	8.44	8.41	8.34	8.07	8.27	8.25	8.45	8.59	8.43	8.15	8.46	8.58	8.1	8.43	8.25	8.42
Borehole depth to top of casing	m	10.75	10.48	10.49	10.43	10.45	10.40	10.40	10.51	10.51	10.49	10.44	10.47	10.46	10.45	10.46	10.51	10.47	10.49	10.47	10.5	10.51	10.49	10.55	10.47
Casing Top relative to Ordnance Datum	m	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88	52.88
Water level relative to Ordnance Datum	m	52.88	44.87	44.46	44.30	44.76	43.76	44.38	44.51	44.44	44.47	44.54	44.81	44.61	44.63	44.43	44.29	44.45	44.73	44.42	44.30	44.78	44.45	44.63	44.46
Calculated purge volume	litres	86.00																							
Base of well (OD)		42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.13	42.42	42.43	42.42	42.37	42.41	42.39	42.41	42.38	42.37	42.39	42.33	42.41
Gas Concentrations																									
Date monitored	-	28/01/2010	10/03/2010	07/06/2010	06/10/2010	25/01/2011	01/04/2011	22/06/2011	06/09/11	12/12/12	02/03/12	05/06/2012	06/09/12	03/12/12	12/03/13	04/06/13	04/09/13	03/12/13	06/03/14	03/06/14	03/09/14	01/12/14	09/06/15	04/12/15	15/06/16
Time of measurement	-	06:00	12:40	15:52	13:35		16:50	11:46	10:51	09:26	12:50	11:28	14:20	14:18	15:39	12:10	15:48	10:29	14:14	12:42	11:13	14:35	12:07	11:41	12:48
Methane	% vol	0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	2.9	1.6	2	0.3	2.0	0.8	1.0	0.6	1.2	1.3	0.4	0.7	1.7	2	<0.1	0.1	1.1	0.9	0.7	0.1	1.1	0.9	1.3	0.3
Oxygen	% vol	18.1	19.5	18.6	19.9	17.8	19.5	20.1	19.7	20.3	19.5	20.2	19.5	19.5	19.6	19.9	20.6	19.6	20.1	18.6	20.4	20.7	19.2	20.4	21.1
Atmospheric Pressure	mbars	1012	1023	1003	990	1010	999	1000	981	987	1022	1008	1007	991	1008	1025	1008	1013	1008	1004	1019	1003	1030	1005	997
Gas Pressure	mbars	0.01	0.05	-0.01	+/-0.01	-0.21	-0.01	0.00	0.02	-0.20	0.14	<0.01	<0.01	-0.27	-0.02	-0.28	0.02	-0.09	-0.1	0.02	-0.09	-0.19	0.02	0.07	-0.15
Gas Flow Rate	l/hr	0	+/-0.1	+/-0.1	+/-0.1	-0.1	0	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	0.2	0.2	<0.1	-0.1	0.2	<0.1	0.2	<0.1	0.2	<0.1	-0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units									6.4		6.4		6.6		6.5		6.4		6.3		6.4	6.6	6.4	6.5
Electrical Conductivity	µS/cm									570		565		565		505		540		565		485	615	600	615
Dissolved Oxygen	mg/l									10.2		9.8		10.1		8.5		11.1		10		10.7	9.7	9.7	10.0
Temperature	℃			9						8.0		8.7		8.5		11.1		8.9		10.4		8.9	10.3	8.1	9.3
Comment																									

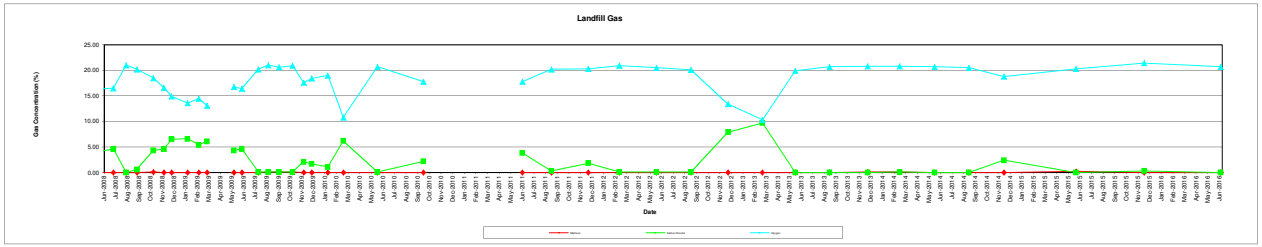
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T18a																		
Type Of Sample Required	None	21/06/04	04/08/04	24/08/04	23/09/04	28/10/04	17/11/04	14/12/04	25/01/05	09/03/05	18/04/05	11/05/05	22/06/05	21/07/05	15/08/05	13/09/05	02/11/05	18/11/05	07/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	9.61	9.62	Dry	Dry	Dry	Dry	Dry	Dry	Dry	9.60	3.81	4.20		Dry	9.50	Dry	Dry	9.37
Borehole depth to top of casing	m	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72
Casing Top relative to Ordnance Datum	m	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47
Water level relative to Ordnance Datum	m	41.86	41.85								41.87	47.66	47.27			41.97			42.10
Calculated purge volume	litres																		
Base of well (OD)		41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75
Gas Concentrations																			
Date monitored	-	21/06/04	04/08/04	24/08/04	23/09/04	28/10/2004	17/11/2004	14/12/2004	25/01/2005	09/03/2005	18/04/2005	11/05/2005	22/06/2005	21/07/2005	15/08/2005	13/09/2005	02/11/2005	18/11/2005	07/12/2005
Time of measurement	-		16:45	1620hrs	16:00	15:30	12:50	11:10	15:40	12:00	6.00pm	11.45	2.30	10.21	7.45	16:00	11:29	12:07	10:51
Methane	% vol	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.1	<0.1	1.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.1	<0.1	0.3	0.2	0.1	2.2	1.9	2.1	4.8	<0.1	1.3	2.1	0.1	<0.1	<0.1	<0.1	2.1	2.3
Oxygen	% vol	20.5	20.6	20	20.2	20.4	17.9	18.5	18.7	14	21.3	12.8	18.1	16.4	17.1	21.0	20.0	18.3	18.0
Atmospheric Pressure	mbars	1004	1010	999	1004	1009	995	993	992	1021	1010	1010	995	1015	1015	1003	989	1021	1005
Gas Pressure	mbars	0.0		2.6	2.3	2	2.8	1.6	1.4	2.3	1.2	0.1	2	1.1	0.1	1.1	3.5	1.3	3.2
Gas Flow Rate	l/hr	<0.1		2.6	3.1	3.3	3.4	0.5	0.5	1.4	3.1	<0.1	2.2	0.1	0.1	0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment																			



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T18a																								
Type Of Sample Required	None	09/01/06	08/02/06	09/03/06	11/04/06	03/05/06	07/06/06	13/07/06	07/08/06	06/09/06	02/10/06	06/11/06	06/12/06	09/01/07	19/02/07	07/03/07	17/04/07	15/05/07	11/06/07	17/07/07	06/08/07	10/09/07	09/10/07	16/11/07	06/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	Dry	DRY	DRY	9.68	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
Borehole depth to top of casing	m	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72
Casing Top relative to Ordnance Datum	m	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47
Water level relative to Ordnance Datum	m																								
Calculated purge volume	litres																								
Base of well (OD)		41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75
Gas Concentrations																									
Date monitored	-	09/01/2006	08/02/2006	09/03/2006	11/04/2006	03/05/2006	07/06/2006	13/07/2006	07/08/2006	06/09/2006	02/10/2006	06/11/2006	06/12/2006	09/01/2007	19/02/2007	07/03/2007	17/04/2007	15/05/2007	11/06/2007	17/07/2007	06/08/2007	10/09/2007	09/10/2007	16/11/2007	06/12/2007
Time of measurement	-	12:46	12:23	15:34	14:42	11:32	13:55	11:45	10:57	16:28	15:34	16:10	15:25	15:00	12:48	15:45	15:00	15:25	12:40	12:30	13:36	15:50	16:00	11:20	14:00
Methane	% vol	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0	0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	3.8	3.90	5.20	4.0	0.0	0.2	0.3	0.3	0.1	0.3	2.3	2.3	2.7	2.4	3.1	1.6	1.2	1.0	0.2	0.0	0.0	0.0	4.0	3.3
Oxygen	% vol	15.6	16.20	12.50	12.5	20.3	20.8	20.5	20.4	20.5	20.5	18.4	18.1	18.2	18.3	18.0	18.0	18.3	20.0	19.9	20.5	20.5	20.7	17.2	18.1
Atmospheric Pressure	mbars	1009	1000	988	988	998	1016	1015	1012	999	994	1009	986	978	1005	992	1014	1002	1013	997	1002	1013	1015	1016	980
Gas Pressure	mbars	2.3	0.8	0.7	1.9	1.4	0.2	1.8	0.8	2.6	1.7	0.6	<0.1	0.6	0.9	0.9	1.7	1.5	1.3	1.7	1.3	+0.5	<0.1	0.5	0.3
Gas Flow Rate	l/hr	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment																									



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

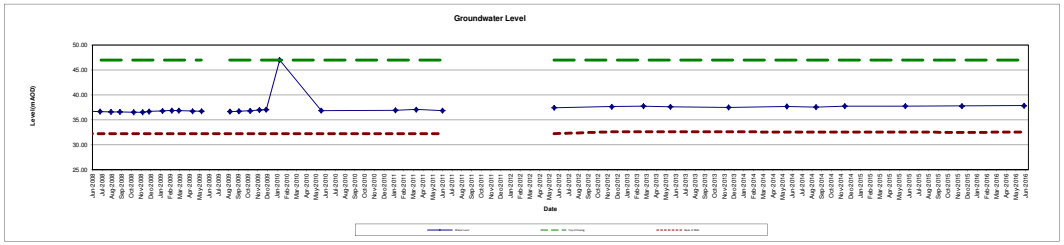
Sampling Location	**T18a**																								
Type Of Sample Required	None	10/01/08	05/02/08	05/03/08	22/04/08	19/05/08	09/06/08	15/07/08	18/08/08	15/09/08	28/10/08	25/11/08	15/12/08	26/01/09	24/02/09	18/03/09	30/04/09	27/05/09	17/06/09	30/07/09	25/08/09	23/09/09	28/10/09	26/11/09	17/12/09
Determinand	Units																								
Water Level																									
Water level to top of casing	m	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
Borehole depth to top of casing	m	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72
Casing Top relative to Ordnance Datum	m	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47
Water level relative to Ordnance Datum	m																								
Calculated purge volume	litres																								
Base of well (OD)		41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75	41.75
Gas Concentrations																									
Date monitored	-	10/01/2008	05/02/2008	05/03/2008	22/04/2008	19/05/2008	09/06/2008	15/07/2008	18/08/2008	15/09/2008	28/10/2008	25/11/2008	15/12/2008	26/01/2009	24/02/2009	18/03/2009		27/05/2009	17/06/2009	30/07/2009	25/08/2009	23/09/2009	28/10/2009	26/11/2009	17/12/2009
Time of measurement	-	13:10	13:00	16:15				00:00	15:47	07:12	12:00	06:43	01:26	01:12	13:25	15:34		00:00	11:28	11:44	15:42	14:59	14:47	09:57	10:26
Methane	% vol	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0.1	0	0	0	0	0		0	0	0	0.1	0.1	0.1	0	0
Carbon Dioxide	% vol	3.9	3.1	3.6	4.3	0.8	4.1	4.6	<0.1	0.6	4.3	4.6	6.5	6.6	5.4	6.1		4.3	4.6	0.1	0.1	0.1	0.1	2.1	1.7
Oxygen	% vol	18.0	18.3	18.2	16.1	20.5	16.3	16.5	21.0	20.2	18.5	16.6	14.9	13.6	14.5	13.1		16.8	16.4	20.2	21	20.6	20.9	17.6	18.4
Atmospheric Pressure	mbars	975	999	1007	1010	1013	1007	1001	981	1010	1002	1020	1012	1002	1024	1025		1003	1004	1003	994	1008	1007	973	1016
Gas Pressure	mbars	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.03	0.03	1.6	1	-0.09		0.02	-0.02	0.08	-0.07	0.03	0.03	0.02	0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1		<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.02
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment																									

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T18a**				(Sept mon)	(Dec Mon)	(March Mon)																			
Type Of Sample Required	None	28/01/10	10/03/10	07/06/10	06/10/10	25/01/11	01/04/11	22/06/11	06/09/11	12/12/11	02/03/12	07/06/12	06/09/12	12/12/12	12/03/13	06/06/13	04/09/13	12/12/13	06/03/14	05/06/14	03/09/14	04/12/14	11/06/15	07/12/15	24/06/16
Determinand	Units																								
Water Level																									
Water level to top of casing	m	DRY	9.66	Dry	9.69			9.70	Dry	9.68	9.68	9.66	9.59	9.56	9.61	9.65	Dry	Dry	9.56	9.64	Dry	9.57	Dry	Dry	9.64
Borehole depth to top of casing	m	9.72	9.68	9.70	9.70			9.69	9.69	9.68	9.71	9.73	9.73	9.72	9.70	9.70	9.73	9.68	9.73	9.71	9.72	9.72	9.71	9.72	9.77
Casing Top relative to Ordnance Datum	m	51.47	51.47	51.47	51.47			51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47	51.47
Water level relative to Ordnance Datum	m		41.81		41.78			41.77		41.79	41.79	41.81	41.88	41.91	41.86	41.82			41.91	41.83		41.90			41.83
Calculated purge volume	litres	77.76																							
Base of well (OD)		41.75	41.75	41.75	41.75			41.75	41.75	41.75	41.75	41.75		41.75	41.77	41.77	41.74	41.79	41.74	41.76	41.75	41.75	41.76	41.75	41.70
Gas Concentrations																									
Date monitored	-	28/01/2010	10/03/2010	07/06/2010	06/10/2010			22/06/2011	06/09/11	12/12/12	02/03/12	07/06/2012	06/09/12	12/12/12	12/03/13	06/06/13	04/09/13	12/12/13	06/03/14	05/06/14	03/09/14	04/12/14	11/06/15	07/12/15	24/06/16
Time of measurement	-	07:26	12:50	16:10	13:40			12:04	10:57	09:39	12:30	10:41	14:29	11:14	15:34	11:10	15:54	14:04	14:20	14:13	11:18	11:53	12:16	12:10	11:49
Methane	% vol	0	<0.1	<0.1	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	1.1	6.2	0.1	2.2			3.8	0.3	1.8	0.1	0.1	0.1	7.9	9.7	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	2.4	<0.1	0.3	<0.1
Oxygen	% vol	19	10.8	20.7	17.8			17.8	20.2	20.3	20.9	20.5	20.1	13.4	10.3	19.9	20.7	20.8	20.8	20.7	20.5	18.8	20.3	21.4	20.7
Atmospheric Pressure	mbars	1013	1023	1003	990			1000	980	987	1022	995	1007	1011	1008	1019	1009	1009	1009	1002	1019	1013	1016	1013	1007
Gas Pressure	mbars	0.02	+/-0.01	+/-0.01	+/-0.01			0.00	<0.01	<0.1	0.14	0.03	<0.01	-0.02	-0.1	0.02	-0.03	-0.1	-0.11	-0.16	-0.04	0.05	-0.12	-0.05	0.09
Gas Flow Rate	l/hr	0	+/-0.1	+/-0.1	+/-0.1			0.2	-0.2	<0.1	-0.1	0.1	<0.1	0.2	0.2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	0.3
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment						Bolt Seized	Bolt Seized					Padlock removed - key did not fit				Tap requires replacing	Gas tap requires replacing.								

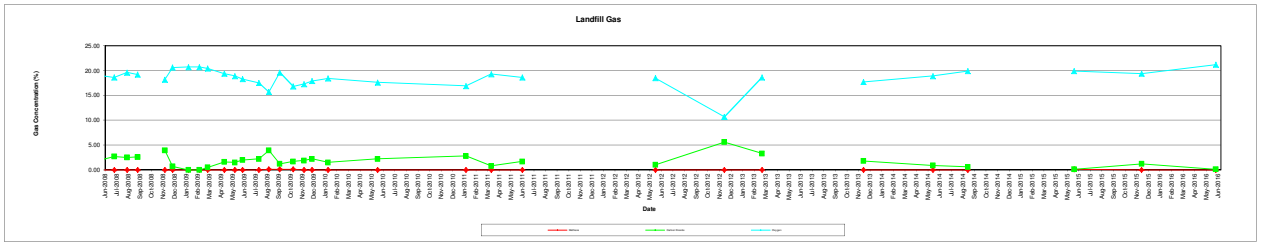
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T19**																		
Type Of Sample Required	Groundwater	21/06/04	04/08/04	24/08/04	23/09/04	28/10/04	17/11/04	14/12/04	25/01/05	09/03/05	18/04/05	09/05/05	22/06/05	21/07/05	15/08/05	13/09/05	02/11/05	18/11/05	07/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	10.40	10.45	10.51	10.56	10.55	10.57	9.97	10.10	10.63	4.40	10.25	10.28	12.32	10.30	10.38	10.65	10.69	10.63
Borehole depth to top of casing	m	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75
Casing Top relative to Ordnance Datum	m	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96
Water level relative to Ordnance Datum	m	36.56	36.51	36.45	36.40	36.41	36.39	36.99	36.86	36.33	42.56	36.71	36.68	34.64	36.66	36.58	36.31	36.27	36.33
Calculated purge volume	litres	104.40																	
Base of well (OD)		32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21
Gas Concentrations																			
Date monitored	-	21/06/04	04/08/04	24/08/04	23/09/04	28/10/2004	17/11/2004	14/12/2004	25/01/2005	09/03/2005	18/04/2005	09/05/2005	22/06/2005	21/07/2005	15/08/2005	13/09/2005	02/11/2005	18/11/2005	07/12/2005
Time of measurement	-		16:50	1618hrs	17:00	15:35	12:55	13:00	15:50	12:40	6.20pm	2.35	3.45	11.42	8.21	17:00	11:45	11:58	10:45
Methane	% vol	<0.1	<0.1	0.1	0.4	0.7	<0.1	0.4	0.4	<0.1	0.4	0.1	1.1	1.1	0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	1.4	0.9	1.9	<0.1	<0.1	3.9	<0.1	<0.1	3.5	<0.1	1.9	2.3	1.1	0.2	<0.1	1.7	1.6	2.8
Oxygen	% vol	18.3	19	17.6	20.4	20.3	16.1	20.1	20.2	15.1	21.4	13.8	20.1	17.8	14.1	21.1	18	18.9	15.7
Atmospheric Pressure	mbars	1004	1010	999	100	1008	995	993	992	1021	1010	1014	995	1015	1015	1003	989	1022	1006
Gas Pressure	mbars	0.0		2.9	6.9	6.8	3.1	1.4	1.3	n/a	1.6	0.1	1.3	1.2	<0.1	3.5	2.2	2.5	4.8
Gas Flow Rate	l/hr	<0.1		2.7	2.8	2.8	3.4	0.4	0.4	n/a	0.6	0.1	2.1	1.1	1.1	1.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units	6.3			6.2			6.54		6.42	7.4	5.52	6.21			7.41			4.62
Electrical Conductivity	µS/cm	1077			1278			1251		981	670	892	1250			8190			596
Dissolved Oxygen	mg/l	4.38			16.6			14.5		38.5	62.4	26.4	4.1			13.4			7.34
Temperature	℃	17.2			10.1			10.1		9.6	10	10	10			14.1			9.8
Comment							Not required			Match Stick stuck in valve		open valve							



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T19**																								
Type Of Sample Required	Groundwater	09/01/06	08/02/06	09/03/06	11/04/06	03/05/06	07/06/06	13/07/06	07/08/06	08/09/06	02/10/06	06/11/06	06/12/06	09/01/07	19/02/07	07/03/07	17/04/07	15/05/07	11/06/07	17/07/07	06/08/07	10/09/07	12/10/07	16/11/07	06/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	10.42	10.37	10.32	11.05	10.21	10.31	10.38	10.36	10.47	10.34	10.52	10.44	10.41	10.43	10.09	10.20	10.21	10.33	10.31	10.31	10.30	10.31	10.40	10.42
Borehole depth to top of casing	m	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75
Casing Top relative to Ordnance Datum	m	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96
Water level relative to Ordnance Datum	m	36.54	36.59	36.64	35.91	36.75	36.65	36.58	36.60	36.49	36.62	36.44	36.52	36.55	36.53	36.87	36.76	36.75	36.63	36.65	36.65	36.66	36.65	36.56	36.54
Calculated purge volume	litres						27.00			35.00	N/A		35.00	N/A	N/A	38.00	N/A	N/A	36.00	N/A	N/A	36.00	N/A	N/A	36.00
Base of well (OD)		32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21
Gas Concentrations																									
Date monitored	-	09/01/2006	08/02/2006	09/03/2006	11/04/2006	03/05/2006	07/06/2006	13/07/2006	07/08/2006	08/09/2006	02/10/2006	06/11/2006	06/12/2006	09/01/2007	19/02/2007	07/03/2007	17/04/2007	15/05/2007	11/06/2007	17/07/2007	06/08/2007	10/09/2007	12/10/2007	16/11/2007	06/12/2007
Time of measurement	-	12:37	12:14	14:44	14:55	11:24	15:00	11:30	10:42	14:00	15:42	16:18	15:40	15:15	12:58	14:40	14:45	15:40	10:50	11:45	12:55	12:50	15:30	11:40	14:10
Methane	% vol	0.2	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	3.5	5.00	2.30	2.3	0.4	1.6	0.8	1.3	1.4	2.2	3.6	1.4	1.1	1.6	1.4	1.6	1.5	2.6	3.6	3.4	4.7	5.2	2.7	1.9
Oxygen	% vol	13.7	11.80	11.60	15.6	20.2	19.0	20.2	19.8	19.3	19.2	17.0	19.9	19.8	19.3	19.8	19.1	19.2	17.2	13.8	14.7	13.8	13.3	18.5	19.7
Atmospheric Pressure	mbars	1010	1000	987	988	998	1016	1016	1013	1018	994	1009	986	978	1005	993	1014	1002	1014	997	1002	1008	1007	1016	979
Gas Pressure	mbars	1.9	1.4	1.8	0.9	1	1.3	3.8	2.6	1	0.5	1.3	0.8	0.6	0.4	1.4	1.4	1.2	2.4	1.9	0.3	<0.1	<0.1	0.6	1
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.1	0.3	<0.1	<0.1	<0.1	<0.1	0.7	<0.1	<0.1	<0.1	0.8	<0.1	<0.1	<0.1	<0.1	0.2
													11/12/2006												
Insitu Liquid Determinations													13:00												
pH	pH units			6.13			6.49			6.42			6.5			6.12			6.14			6.25			6.06
Electrical Conductivity	µS/cm			536			1557			1488			1384			667			658			790			865
Dissolved Oxygen	mg/l			5			1.81			10.5			1.52			1.47			1.7			5.16			5.39
Temperature	℃			9.1			10.6			2.94			10			9.9			10.8			10.4			10.4
Comment								Venting																	



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

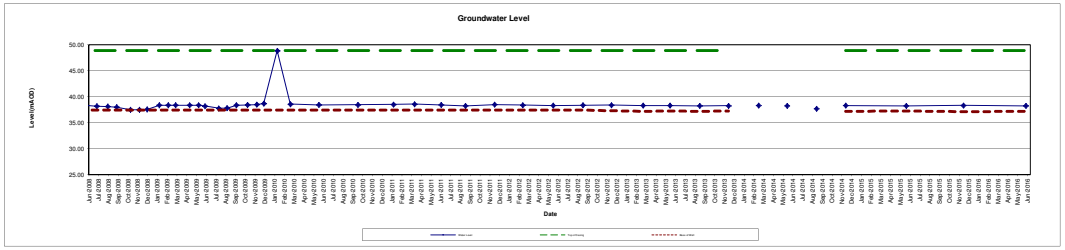
Sampling Location	**T19**																								
Type Of Sample Required	Groundwater	10/01/08	05/02/08	05/03/08	22/04/08	19/05/08	09/06/08	15/07/08	18/08/08	15/09/08	28/10/08	25/11/08	15/12/08	26/01/09	24/02/09	18/03/09	30/04/09	28/05/09	17/06/09	30/07/09	25/08/09	23/09/09	28/10/09	26/11/09	17/12/09
Determinand	Units																								
Water Level																									
Water level to top of casing	m	10.39	10.40	10.25	11.62	10.24	10.27	10.32	10.36	10.38	10.42	10.42	10.28	10.19	10.07	10.12	10.20	10.25			10.32	10.24	10.15	9.98	9.92
Borehole depth to top of casing	m	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75	14.75			14.75	14.75	14.75	14.75	14.75
Casing Top relative to Ordnance Datum	m	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96			46.96	46.96	46.96	46.96	46.96
Water level relative to Ordnance Datum	m	36.57	36.56	36.71	35.34	36.72	36.69	36.64	36.60	36.58	36.54	36.54	36.68	36.77	36.89	36.84	36.76	36.71			36.64	36.72	36.81	36.98	37.04
Calculated purge volume	litres	35	35	36	25	36	36	35	35	35	34.64	34.64	35.76	36.48	37.44	37.04	36.40	36.00			35.44	36.08	36.80	38.16	38.64
Base of well (OD)		32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21	32.21
Gas Concentrations																									
Date monitored	-	10/01/2008	05/02/2008	05/03/2008	22/04/2008	19/05/2008	09/06/2008	15/07/2008	18/08/2008	15/09/2008	28/10/2008	25/11/2008	15/12/2008	26/01/2009	24/02/2009	18/03/2009	30/04/2009	28/05/2009	17/06/2009	30/07/2009	25/08/2009	23/09/2009	28/10/2009	26/11/2009	17/12/2009
Time of measurement	-	14:00	13:15	15:35				00:00	16:23	03:36	00:00	08:52	04:19	02:52	13:32	15:41	14:40	11:32	11:33	11:49	15:48	15:20	15:00	09:50	10:21
Methane	% vol	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0		0	0	0	0	0	0	0	0	0	0.1	0.1	0.1	0	0
Carbon Dioxide	% vol	2.1	2.6	3.6	2.8	2.6	2.0	2.7	2.5	2.6		3.9	0.7	0	0	0.5	1.6	1.5	2	2.2	3.9	1.2	1.7	1.9	2.2
Oxygen	% vol	19.6	19.1	17.2	17.9	18.2	19.0	18.6	19.6	19.2		18.2	20.6	20.7	20.7	20.4	19.4	18.9	18.3	17.5	15.7	19.6	16.8	17.3	17.9
Atmospheric Pressure	mbars	975	999	1008	1012	1017	1008	1001	983	1010		1021	1012	1003	1025	1024	1010	1023	1004	1003	995	1008	1008	973	1016
Gas Pressure	mbars	0.8	0.3	<0.1	<0.1	<0.1	<0.1	0.1	Damaged	Damaged		0	0.04	Damaged	Damaged	-6.97	0.01	0	0.54	0.06	0.01	-0.01	-0.18	0.06	0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	Damaged	Damaged		0	0.1	Damaged	Damaged	Damaged	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units	6.12	6.15	6.4	8	6.1	7.2	6.6				7.8		6.15	6.37		6.6	6.5			6.4		6.8	6.5	6.8
Electrical Conductivity	µS/cm	923	885	984	910	926	926	1030				975		1038	1007		984	969			1000		833	974	961
Dissolved Oxygen	mg/l	6.48	6.24	6.34				0				0		2.15	4.38										
Temperature	℃	10.1	10.3	11.1	9	12	8	8				6		9.15	9.56		8	8			8		8	8	7
Comment											Equipment Failure								Damaged	Cap stuck					

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T19**			(Dec Mon)	(March Mon)														
Type Of Sample Required	Groundwater	28/01/10	07/06/10	25/01/11	01/04/11	22/06/11	09/12/11	05/06/12	03/12/12	12/03/13	04/06/13	03/12/13	03/06/14	03/09/14	02/12/14	09/06/15	04/12/15	15/06/16
Determinand	Units																	
Water Level																		
Water level to top of casing	m	0.00	10.13	10.04	9.89	10.10		9.53	9.30	9.23	9.34	9.46	9.26	9.41	9.2	9.23	9.17	9.13
Borehole depth to top of casing	m	14.75	14.78	14.80	14.82	14.82		14.32	14.33	14.36	14.36	14.34	14.4	14.41	14.4	14.39	14.48	14.4
Casing Top relative to Ordnance Datum	m	46.96	46.96	46.96	46.96	46.96		46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96	46.96
Water level relative to Ordnance Datum	m	46.96	36.83	36.92	37.07	36.86		37.43	37.66	37.73	37.62	37.50	37.70	37.55	37.76	37.73	37.79	37.83
Calculated purge volume	litres	118.00																
Base of well (OD)		32.21	32.21	32.21	32.21	32.21		32.21	32.63	32.60	32.60	32.62	32.56	32.55	32.56	32.57	32.48	32.56
Gas Concentrations																		
Date monitored	-	28/01/2010	07/06/2010	24/01/2011	01/04/2011	22/06/2011		05/06/2012	03/12/12	12/03/13		03/12/13	03/06/14	03/09/14	02/12/14	09/06/15	04/12/15	15/06/16
Time of measurement	-	08:38	16:21		16:45	11:15		10:37	13:10	15:25		09:41	11:48	10:51	12:00	10:21	11:07	12:00
Methane	% vol	0	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1		<0.1	<0.1	<0.1		0.1	<0.1	<0.1
Carbon Dioxide	% vol	1.5	2.2	2.8	0.8	1.7		1.0	5.6	3.3		1.8	0.9	0.6		0.1	1.2	0.1
Oxygen	% vol	18.4	17.6	16.9	19.3	18.6		18.5	10.7	18.6		17.7	18.9	19.9		19.9	19.4	21.2
Atmospheric Pressure	mbars	1014	1003	1020	999	1000		1008	992	1008		1014	1003	1020		1032	1006	997
Gas Pressure	mbars	0.09	+/-0.01	0.17	0	0.00		<0.01	-0.41	0.19		-0.17	-0.03	-0.06		0.02	0.07	-0.2
Gas Flow Rate	l/hr	0	+/-0.1	0.2	0	<0.1		n/a	0.2	0.1		0.3	0.3	<0.1		0.1	-0.2	-0.1
Insitu Liquid Determinations																		
pH	pH units						6.4	6.3	6.2		6.4	6.4	5.9		6	6.4	5.9	6.3
Electrical Conductivity	µS/cm						735	810	465		820	790	675		500	655	630	805
Dissolved Oxygen	mg/l						7.0	4.7	9.4		4.4	6.3	5.9		11	5.2	9.1	4.9
Temperature	ºC		9.9				7.7	10.2	9.0		10.9	9.4	11.8		9.2	11.4	9.1	10.5
Comment			Waters taken on 14.06.10 at 13:37	Spot sample		No lid on monitoring point					Casing wobbly requires attention							

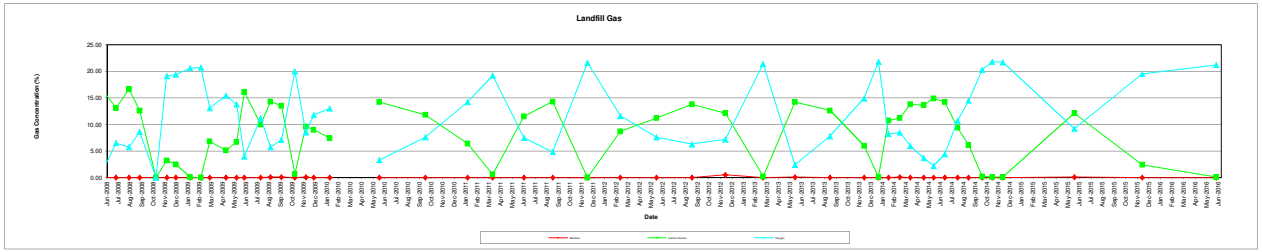
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T20																		
Type Of Sample Required	None	21/06/04	04/08/04	24/08/04	23/09/04	28/10/04	17/11/04	14/12/04	25/01/05	09/03/05	18/04/05	09/05/05	22/06/05	21/07/05	15/08/05	13/09/05	02/11/05	18/11/05	07/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	10.48	10.48	10.51	10.53	10.53	10.57	10.51	10.52	10.50	10.00	8.40	8.10	10.05	10.10	10.20	10.51	10.50	10.48
Borehole depth to top of casing	m	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45
Casing Top relative to Ordnance Datum	m	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84
Water level relative to Ordnance Datum	m	38.36	38.36	38.33	38.31	38.31	38.27	38.33	38.32	38.34	38.84	40.44	40.74	38.79	38.74	38.64	38.33	38.34	38.36
Calculated purge volume	litres																		
Base of well (OD)		37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39
Gas Concentrations																			
Date monitored	-	21/06/04	04/08/04	24/08/04	23/09/04	28/10/2004	17/11/2004	14/12/2004	25/01/2005	09/03/2005	18/04/2005	09/05/2005	22/06/2005	21/07/2005	15/08/2005	13/09/2005	02/11/2005	18/11/2005	07/12/2005
Time of measurement	-		17:00	1750hrs	15:20	15:40	13:05	11:30	16:00	11:50	6.50pm	1.45	5.35	12.20	8.52	16:20	11:59	11:47	10:30
Methane	% vol	<0.1	<0.1	0.1	0.1	0.2	<0.1	0.1	<0.1	<0.1	0.2	0.1	1.2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	2.0	15.7	15.9	16.1	16	2.2	16.5	16	7.8	0.1	<0.1	<0.1	<0.1	4	1.9	9.8	<0.1	8.1
Oxygen	% vol	17.7	0.4	0.3	0.2	0.3	17.7	0.4	0.5	12.7	23.4	20.7	<0.1	19.1	12.2	18.2	9	20	13.5
Atmospheric Pressure	mbars	1004	1010	996	1004	1010	995	994	992	1021	1010	1014	995	1015	1015	1003	989	1022	1006
Gas Pressure	mbars	0.0		2.7	2.5	2.5	2.9	1.2	1.2	1.8	0.2	1.1	1.1	0.1	<0.1	0.9	0	1.5	-6.9
Gas Flow Rate	l/hr	<0.1		2.6	3	3	3.3	0.6	0.6	1.6	1.3	1.2	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	℃																		
Comment																			



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T20																								
Type Of Sample Required	None	09/01/06	08/02/06	09/03/06	11/04/06	03/05/06	07/06/06	13/07/06	07/08/06	08/09/06	02/10/06	06/11/06	06/12/06	09/01/07	19/02/07	07/03/07	17/04/07	15/05/07	11/06/07	17/07/07	06/08/07	10/09/07	12/10/07	16/11/07	17/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	10.57	9.91	10.55	10.39	10.51	10.08	10.50	10.47	10.49	10.47	10.42	10.39	10.40	10.40	10.24	10.50	10.50	10.52	10.52	10.54	10.62	10.60	10.60	10.53
Borehole depth to top of casing	m	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45
Casing Top relative to Ordnance Datum	m	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84
Water level relative to Ordnance Datum	m	38.27	38.93	38.29	38.45	38.33	38.76	38.34	38.37	38.35	38.37	38.42	38.45	38.44	38.44	38.60	38.34	38.34	38.32	38.32	38.30	38.22	38.24	38.24	38.31
Calculated purge volume	litres																								
Base of well (OD)		37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39
Gas Concentrations																									
Date monitored	-	09/01/2006	08/02/2006	09/03/2006	11/04/2006	03/05/2006	07/06/2006	13/07/2006	07/08/2006	08/09/2006	02/10/2006	06/11/2006	06/12/2006	09/01/2007	19/02/2007	07/03/2007	17/04/2007	15/05/2007	11/06/2007	17/07/2007	06/08/2007	10/09/2007	12/10/2007	16/11/2007	17/12/2007
Time of measurement	-	12:27	12:00	14:33	15:10	11:14	15:50	11:02	10:30	14:45	15:56	16:25	15:50	15:35	13:10	15:55	14:30	15:55	10:30	11:30	12:45	16:05	15:45	11:50	10:30
Methane	% vol	0.1	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Carbon Dioxide	% vol	0.1	0.00	9.10	0.6	2.4	14.0	0.8	1.0	10.8	11.4	9.9	10.1	8.5	9.1	9.6	6.3	5.9	13.9	14.3	10.9	12.3	13.2	14.1	0.2
Oxygen	% vol	21	20.70	10.40	19.9	17.8	2.7	20.0	19.9	9.4	7.6	8.2	8.7	9.2	9.5	9.9	13.6	13.9	4.0	4.5	9.7	8.8	9.6	8.3	20.8
Atmospheric Pressure	mbars	1010	1000	988	989	998	1017	1015	1012	1018	994	1009	986	978	1005	993	1014	1002	1014	998	1003	1012	1007	1016	1035
Gas Pressure	mbars	2.1	0.4	0.6	1.8	1.4	Broken	1.4	0.9	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1							
Gas Flow Rate	l/hr	0.3	0.5	<0.1	<0.1	<0.1	Tap	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1							
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment								Standpipe Broken/ Switch Broken	Standpipe Broken/ Tap Broken	Broken Standpipe	Broken Standpipe	Broken Standpipe	Broken Standpipe	Broken Standpipe					Gas tap broken	Gas tap broken	Gas tap broken	Gas tap broken	Gas tap broken	Gas tap broken	Gas tap broken



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T20**																								
Type Of Sample Required	None	01/01/08	05/02/08	05/03/08	22/04/08	19/05/08	09/06/08	15/07/08	18/08/08	15/09/08	28/10/08	25/11/08	19/12/08	26/01/09	23/02/09	18/03/09	30/04/09	28/05/09	17/06/09	30/07/09	25/08/09	23/09/09	28/10/09	26/11/09	17/12/09
Determinand	Units																								
Water Level																									
Water level to top of casing	m	10.50	10.53	10.50	10.53	10.52	10.52	10.69	10.72	10.87	11.35	11.34	11.30	10.50	10.48	10.49	10.47	10.49	10.63	11.07	11.05	10.49	10.42	10.38	10.14
Borehole depth to top of casing	m	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45	11.45
Casing Top relative to Ordnance Datum	m	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84
Water level relative to Ordnance Datum	m	38.34	38.31	38.34	38.31	38.32	38.32	38.15	38.12	37.97	37.49	37.50	37.54	38.34	38.36	38.35	38.37	38.35	38.21	37.77	37.79	38.35	38.42	38.46	38.70
Calculated purge volume	litres	8	7	8	7	7	7	6	6	5	0.80	0.88	1.20	7.60	7.76	7.68	7.84	7.68	6.56	3.04	3.20	7.68	8.24	8.56	10.48
Base of well (OD)		37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39
Gas Concentrations																									
Date monitored	-	01/01/2008	05/02/2008	05/03/2008	22/04/2008	19/05/2008	09/06/2008	15/07/2008	18/08/2008	15/09/2008	28/10/2008	25/11/2008	19/12/2008	26/01/2009	23/02/2009	18/03/2009	30/04/2009	28/05/2009	17/06/2009	30/07/2009	25/08/2009	23/09/2009	28/10/2009	26/11/2009	17/12/2009
Time of measurement	-	14:30	13:30	15:20				00:00	16:37	13:26	00:00	11:31	00:14	07:40	16:34	16:01	15:10	11:52	12:00	12:03	16:04	15:39	15:09	09:44	10:11
Methane	% vol	0.2	0.1	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0	0.1	0
Carbon Dioxide	% vol	0.2	0.3	0.5	0.1	11.8	16.5	13.1	16.6	12.6	0	3.2	2.5	0.1	0	6.8	5.1	6.7	16.1	10	14.3	13.5	0.7	9.6	9
Oxygen	% vol	20.7	20.7	20.4	20.8	6.5	1.2	6.5	5.7	8.6	0	19.1	19.4	20.6	20.7	13.1	15.4	13.8	4	11.2	5.7	7.1	20	8.5	11.8
Atmospheric Pressure	mbars	975	999	1008	1012	1017	1010	1001	983	1011	0	1021	1005	1003	1021	1025	1010	1022	1004	1002	995	1007	1008	974	1017
Gas Pressure	mbars																								
Gas Flow Rate	l/hr																								
Insitu Liquid Determinations																									
pH	pH units					5.9	7.2	6.2						6.03	5.88		6.3	6.2					7.1	6.7	7
Electrical Conductivity	µS/cm					1481	1470	1590						1460	1392		1270	1290					1180	1350	1240
Dissolved Oxygen	mg/l							0						1.85	1.18										
Temperature	℃					12	11	10						10.43	11.06		9	9					8	8	7
Comment		Gas tap broken	Gas tap broken	Gas tap broken	Gas tap broken	Gas tap broken	Gas tap broken	Gas tap broken	Gas tap broken	Gas tap broken	Equipment Failure	Gas tap broken	Gas tap broken	Gas tap broken	Gas tap broken	Gas tap broken	Gas tap broken	Gas tap broken	Gas tap broken	Gas tap broken	Gas tap broken	Gas tap broken	Gas tap broken	Gas tap broken	Gas tap broken

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

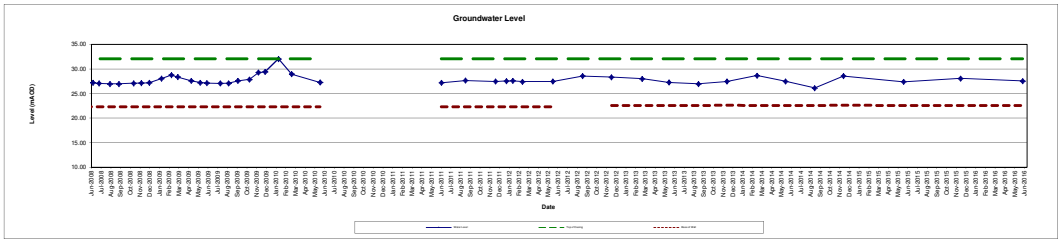
Sampling Location	**T20**				(Sept mon)	(Dec Mon)	(March Mon)																						
Type Of Sample Required	None	28/01/10	10/03/10	07/06/10	06/10/10	25/01/11	01/04/11	22/06/11	06/09/11	06/12/11	02/03/12	05/06/12	06/09/12	03/12/12	12/03/13	04/06/13	04/09/13	02/12/13	09/01/14	04/02/14	06/03/14	02/04/14	08/05/14	03/06/14	02/07/14	05/08/14	03/09/14	09/10/14
Determinand	Units																												
Water Level																													
Water level to top of casing	m	0.00	10.28	10.44	10.39	10.34	10.28	10.42	10.62	10.35	10.45	10.55	10.47	10.45	10.55	10.54	10.61	10.57			10.55			10.58			11.15	
Borehole depth to top of casing	m	11.45	11.80	11.48	11.50	11.46	11.49	11.49	11.50	11.51	11.50	11.60	11.63	11.54	11.64	11.60	11.64	11.6			11.62			11.59			11.63	
Casing Top relative to Ordnance Datum	m	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84	48.84			48.84			48.84			48.84	
Water level relative to Ordnance Datum	m	48.84	38.56	38.40	38.45	38.50	38.56	38.42	38.22	38.49	38.39	38.29	38.37	38.39	38.29	38.30	38.23	38.27			38.29			38.26			37.69	
Calculated purge volume	litres	91.60																											
Base of well (OD)		37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.39	37.30	37.20	37.24	37.20	37.24			37.22			37.25			37.21	
Gas Concentrations																													
Date monitored	-	28/01/2010	10/03/2010	07/06/2010	06/10/2010	24/01/2011	01/04/2011	22/06/2011	06/09/11	06/12/12	02/03/12	05/06/2012	06/09/12	03/12/12	12/03/13	04/06/13	04/09/13	02/12/13	09/01/14	04/02/14	06/03/14	02/04/14	08/05/14	03/06/14	02/07/14	05/08/14	03/09/14	09/10/14
Time of measurement	-	11:31	14:40	17:16	12:05		16:30	10:44	09:51	10:06	12:01	10:18	12:57	12:30	15:01	11:19	14:51	15:09	10:38	14:13	12:45	14:41	10:58	10:55	14:13	15:25	09:58	10:15
Methane	% vol	0		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	7.4		14.2	11.8	6.4	0.6	11.5	14.3	<0.1	8.7	11.2	13.8	12.1	0.2	14.2	12.6	6	0.1	10.7	11.2	13.8	13.6	14.9	14.2	9.4	6.1	0.2
Oxygen	% vol	13		3.3	7.6	14.2	19.2	7.5	4.8	21.6	11.6	7.6	6.3	7.2	21.4	2.4	7.8	14.9	21.8	8.2	8.5	6	3.7	2.2	4.4	10.7	14.5	20.3
Atmospheric Pressure	mbars	1015		1004	997	1020	999	1000	982	994	1022	1009	1010	992	1008	1026	1011	1019	993	987	1010	1005	996	1003	1009	1011	1020	986
Gas Pressure	mbars			+/-0.01				0.00	0.01	<0.1	0.14	-0.16	<0.01	-0.27	-0.19	<0.01	<0.01	0.07	0.07	0.1	-0.16	0.26	0.12	0.24	0.25	-0.16	0.05	0.05
Gas Flow Rate	l/hr			+/-0.1				<0.1	NR	-0.1	n/r	<0.1	<0.1	0.2	0.2	0.2	0.4	0.2	0.2	0.1	0.1	<0.1	0.2	0.2	0.1	0.2	<0.1	<0.1
Insitu Liquid Determinations																													
pH	pH units									6.6		6.6		6.6		6.7		6.5						6.2				
Electrical Conductivity	µS/cm									975		1090		1110		1480		1070						1030				
Dissolved Oxygen	mg/l									2.4		6.7		4.9		2.2		8.6						5				
Temperature	ºC			11.3						9.0		13.2		8.8		13.7		8.7						15				
Comment		Gas tap broken		Bung and tap damaged, reading taken venting	Tap damaged, readings taken from open well	Gas tap broken	Gas tap broken	Top section of borehole detached	Top section of borehole broken off	Top section of borehole broken off	No bung or gas tap present																		

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T20**					
Type Of Sample Required	None	04/11/14	02/12/14	08/06/15	04/12/15	15/06/16
Determinand	Units					
Water Level						
Water level to top of casing	m		10.55	10.6	10.53	10.6
Borehole depth to top of casing	m		11.64	11.63	11.71	11.69
Casing Top relative to Ordnance Datum	m		48.84	48.84	48.84	48.84
Water level relative to Ordnance Datum	m		38.29	38.24	38.31	38.24
Calculated purge volume	litres					
Base of well (OD)			37.20	37.21	37.13	37.15
Gas Concentrations						
Date monitored	-	04/11/14	02/12/14	08/06/15	04/12/15	15/06/16
Time of measurement	-	14:20	11:42	14:59	10:34	10:56
Methane	% vol	<0.1	<0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.1	0.1	12.1	2.4	0.1
Oxygen	% vol	21.8	21.7	9.2	19.5	21.2
Atmospheric Pressure	mbars	990	1016	1031	1006	996
Gas Pressure	mbars	-0.07	-0.29	<0.01	0.06	-0.13
Gas Flow Rate	l/hr	0.1	0.2	0.3	-0.1	-0.1
Insitu Liquid Determinations						
pH	pH units		6.6	6.7	6.6	6.7
Electrical Conductivity	µS/cm		825	1170	1300	1860
Dissolved Oxygen	mg/l		7.5	4.2	7.9	6.5
Temperature	ºC		8.9	11.2	8.7	11.4
Comment						

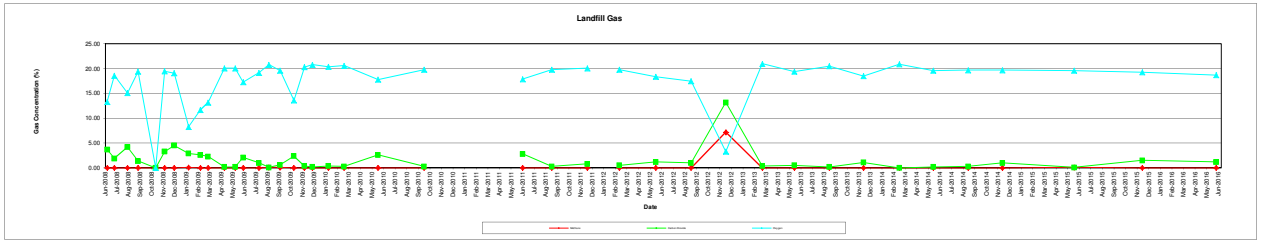
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T21**																		
Type Of Sample Required	None	21/06/04	04/08/04	24/08/04	23/09/04	28/10/04	17/11/04	14/12/04	25/01/05	09/03/05	18/04/05	09/05/05	23/06/05	21/07/05	15/08/05	13/09/05	02/11/05	18/11/05	07/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	4.42	4.80	4.82	4.82	4.18	5.04	4.79	4.79	4.60	6.90	4.20	4.05	5.20	4.90	4.83	5.22	5.23	5.14
Borehole depth to top of casing	m	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78
Casing Top relative to Ordnance Datum	m	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07
Water level relative to Ordnance Datum	m	27.65	27.27	27.25	27.25	27.89	27.03	27.28	27.28	27.47	25.17	27.87	28.02	26.87	27.17	27.24	26.85	26.84	26.93
Calculated purge volume	litres																		
Base of well (OD)		22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29
Gas Concentrations																			
Date monitored	-	21/06/04	04/08/04	24/08/04	23/09/04	28/10/2004	17/11/2004	14/12/2004	25/01/2005	09/03/2005	18/04/2005	09/05/2005	23/06/2005	21/07/2005	15/08/2005	13/09/2005	02/11/2005	18/11/2005	07/12/2005
Time of measurement	-		17:05	1755hrs	15:30	16:00	13:15	09:20	16:05	12:10	7.10pm	1.20	8.15	12.49	9.93	17:20	12:02	11:38	11:58
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	1.2	0.1	<0.1	<0.1	<0.1	0.1
Carbon Dioxide	% vol	0.5	0.6	0.9	10.1	10	0.5	0.2	0.1	1.9	1.1	0.1	<0.1	1.1	0.1	2.4	3.9	3.9	3.5
Oxygen	% vol	19.1	19	18.9	18.7	20.2	19.7	20.7	20.5	14.9	11.6	18.6	17.8	15.6	11.2	18.3	14.1	14	14
Atmospheric Pressure	mbars	1001	1012	996	1004	1010	997	996	993	1024	1010	1010	1010	1015	1015	1008	991	1024	1008
Gas Pressure	mbars	0.0		2.1	2.2	2	5.1	0.9	0.9	3.8	1.1	1.2	0.01	1.3	0.1	0	14.5	1.4	4.1
Gas Flow Rate	l/hr	<0.1		2.6	2.6	2.6	3.4	0.8	0.8	1.4	1.3	0.1	<0.1	1.1	0.1	<0.1	0.9	0.2	<0.1
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	ºC																		
Comment																			



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T21**																								
Type Of Sample Required	None	11/01/06	09/02/06	10/03/06	11/04/06	03/05/06	07/06/06	14/07/06	07/08/06	11/09/06	02/10/06	06/11/06	11/12/06	09/01/07	19/02/07	07/03/07	17/04/07	15/05/07	11/06/07	17/07/07	06/08/07	10/09/07	12/10/07	16/11/07	17/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	4.54	4.24	4.38	3.21	3.77	4.51	4.95	4.90	4.95	4.97	5.04	4.90	4.92	4.91	4.88	4.88	4.90	4.94	4.91	4.92	4.67	4.65	4.68	5.12
Borehole depth to top of casing	m	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78
Casing Top relative to Ordnance Datum	m	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07
Water level relative to Ordnance Datum	m	27.53	27.83	27.69	28.86	28.30	27.56	27.12	27.17	27.12	27.10	27.03	27.17	27.15	27.16	27.19	27.19	27.17	27.13	27.16	27.15	27.40	27.42	27.39	26.95
Calculated purge volume	litres																								34.00
Base of well (OD)		22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29
Gas Concentrations																									
Date monitored	-	11/01/2006	09/02/2006	10/03/2006	11/04/2006	03/05/2006	07/06/2006	14/07/2006	07/08/2006	11/09/2006	02/10/2006	06/11/2006	11/12/2006	09/01/2007	19/02/2007	07/03/2007	17/04/2007	15/05/2007	11/06/2007	17/07/2007	06/08/2007	10/09/2007	12/10/2007	16/11/2007	17/12/2007
Time of measurement	-	11:08	16:24	11:52	15:27	16:10	15:56	09:30	10:30	16:00	16:05	16:32	13:41	15:45	13:20	16:05	16:10	16:10	12:16	11:15	12:30	15:10	16:00	16:00	12:05
Methane	% vol	0.2	0.00	0.00	0.0	0.0	0.0	0.1	0.3	0.3	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0
Carbon Dioxide	% vol	2.7	0.10	0.20	0.0	0.0	0.6	0.7	1.1	0.8	0.0	0.0	3.6	4.2	3.1	3.2	2.9	3.5	2.6	2.4	2	3.5	4.6	5.6	3.8
Oxygen	% vol	11.8	20.40	19.80	20.8	20.5	20.1	20.6	20.4	20.5	20.7	20.7	15.5	15.4	16.2	16.5	16.8	16.3	14.1	10.7	15.1	10	10.2	11.8	13.6
Atmospheric Pressure	mbars	1001	1015	998	990	1002	1019	1028	1003	1006	995	1010	991	979	1005	994	1015	1003	1010	1000	1005	1012	1008	1017	1036
Gas Pressure	mbars	0.8	0.5	0.9	Broken	Broken	Broken	Broken	Broken	Broken	No	No	3.8	4.2	3.1	4.3	3.3	2.4	2.5	2.5	1.8	<0.1	<0.1	<0.1	2.1
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	Cap	Cap	Cap	Cap	Cap	Cap	Cap	Cap	<0.1	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.7
Insitu Liquid Determinations																									
pH	pH units																								7.13
Electrical Conductivity	µS/cm																								513
Dissolved Oxygen	mg/l																								9.23
Temperature	℃																								10
Comment			Broken Cap	Broken Cap	Broken Cap	Broken Cap	Broken Cap	Broken Cap	Broken Cap	Broken Cap	No Cap	No Cap													



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

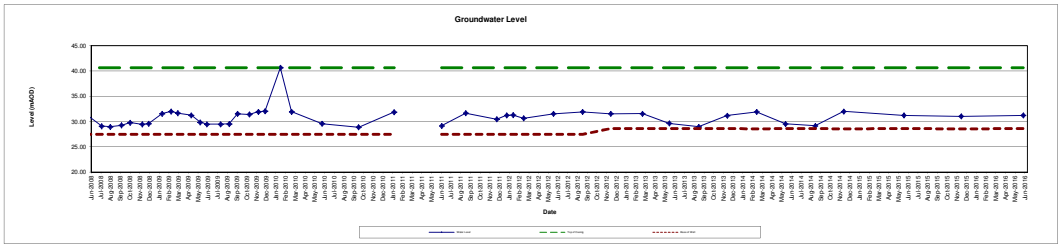
Sampling Location	**T21**																								
Type Of Sample Required	None	22/01/08	18/02/08	07/03/08	22/04/08	19/05/08	26/06/08	15/07/08	18/08/08	15/09/08	31/10/08	24/11/08	19/12/08	26/01/09	26/02/09	18/03/09	30/04/09	28/05/09	18/06/09	30/07/09	25/08/09	23/09/09	29/10/09	26/11/09	17/12/09
Determinand	Units																								
Water Level																									
Water level to top of casing	m	4.93	4.99	3.99	4.58	4.52	4.86	4.98	5.08	5.08	4.96	4.92	4.85	4.01	3.31	3.68	4.48	4.82	4.94	4.99	4.96	4.49	4.18	2.78	2.64
Borehole depth to top of casing	m	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78
Casing Top relative to Ordnance Datum	m	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07
Water level relative to Ordnance Datum	m	27.14	27.08	28.08	27.49	27.55	27.21	27.09	26.99	26.99	27.11	27.15	27.22	28.06	28.76	28.39	27.59	27.25	27.13	27.08	27.11	27.58	27.89	29.29	29.43
Calculated purge volume	litres	39	38	46	42	42	39	38	38	38	38.56	38.88	39.44	46.16	51.76	48.80	42.40	39.68	38.72	38.32	38.56	42.32	44.80	56.00	57.12
Base of well (OD)		22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29	22.29
Gas Concentrations																									
Date monitored	-	22/01/2008	18/02/2008	07/03/2008	22/04/2008	19/05/2008	26/06/2008	15/07/2008	18/08/2008	15/09/2008	31/10/2008	24/11/2008	19/12/2008	26/01/2009	26/02/2009	18/03/2009	30/04/2009	28/05/2009	18/06/2009	30/07/2009	25/08/2009	23/09/2009	29/10/2009	26/11/2009	17/12/2009
Time of measurement	-	12:20	14:20	14:55				00:00	16:49	08:24	00:00	12:43	01:40	02:52	15:43	16:16	15:20	12:17	15:10	16:06	16:20	15:48	10:23	08:38	10:04
Methane	% vol	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0.1	0.1	0	0	0
Carbon Dioxide	% vol	4.6	4.1	2.2	3	3.1	3.7	1.9	4.2	1.4	0	3.3	4.5	2.9	2.6	2.3	0.2	0.2	2.1	1	0.1	0.6	2.4	0.4	0.2
Oxygen	% vol	15.8	16.6	12.6	12.9	12	13.3	18.6	15.1	19.4	0	19.5	19.1	8.3	11.7	13.2	20.1	20.1	17.3	19.2	20.8	19.6	13.6	20.3	20.8
Atmospheric Pressure	mbars	1010	989	989	1009	1017	999	1004	986	1012	0	1015	1005	1006	1013	1027	1012	1022	1001	1004	997	1009	1021	975	1019
Gas Pressure	mbars	0.9	0.7	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0	0.1	0.06	2.09	0.13	-0.05	-0.02	0.06	0.06	0.07	0.03	0.07	-0.22	0.04	0.03
Gas Flow Rate	l/hr	0.9	0.2	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0	<0.1	0.1	0.1	-2.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units	7.2	7.3	6.33		6.6	7	6.6			8.86	7		7.28	6.78		7	7		8.3	7.3		7.3	7	7.3
Electrical Conductivity	µS/cm	723	668	448		558	516	588			471	431		673	721		582	562		535	531		623	583	581
Dissolved Oxygen	mg/l	8.76	8.96	7.55				0			6.55	0		1.79	3.62										
Temperature	℃	9.6	9.8	8.5		10	7	8			9.93	7		7.71	7.51		7	7		8	8		8	8	7
Comment											Equipment Failure														

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T21**				(Sept mon)	(Dec Mon)	(March Mon)																						
Type Of Sample Required	None	28/01/10	10/03/10	07/06/10	06/10/10	25/01/11	01/04/11	22/06/11	06/09/11	09/12/11	12/01/12	01/02/12	02/03/12	05/06/12	06/09/12	06/12/12	12/03/13	04/06/13	04/09/13	02/12/13	06/03/14	03/06/14	03/09/14	02/12/14	08/06/15	04/12/15	15/06/16
Determinand	Units																												
Water Level																													
Water level to top of casing	m	0.00	3.12	4.80				4.88	4.39	4.60	4.51	4.48	4.63	4.59	3.49	3.72	4.05	4.79	5.08	4.59	3.4	4.56	5.94	3.49	4.68	3.97	4.5
Borehole depth to top of casing	m	9.78	9.49	9.50				9.50	9.50	9.51	9.50	9.50	9.43	9.49	9.51	9.51	9.48	9.50	9.48	9.47	9.53	9.48	9.5	9.46	9.48	9.52	9.49
Casing Top relative to Ordnance Datum	m	32.07	32.07	32.07				32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07	32.07
Water level relative to Ordnance Datum	m	32.07	28.95	27.27				27.19	27.68	27.47	27.56	27.59	27.44	27.48	28.58	28.35	28.02	27.28	26.99	27.48	28.67	27.51	26.13	28.58	27.39	28.10	27.57
Calculated purge volume	litres	78.24																									
Base of well (OD)		22.29	22.29	22.29				22.29	22.29	22.29	22.29	22.29	22.29	22.29		22.56	22.59	22.57	22.59	22.60	22.54	22.59	22.57	22.61	22.59	22.55	22.58
Gas Concentrations																											
Date monitored	-	28/01/2010	10/03/2010	07/06/2010	06/10/2010			22/06/2011	06/09/11	09/12/12			02/03/12	05/06/2012	06/09/12	06/12/12	12/03/13	04/06/13	04/09/13	02/12/13	06/03/14	03/06/14	03/09/14	02/12/14	08/06/15	04/12/15	15/06/16
Time of measurement	-	05:45	14:25	17:40	11:52			09:32	09:43	10:26			11:52	09:53	12:33	12:25	14:41	10:58	14:37	14:44	14:51	10:26	09:47	11:18	14:40	10:15	10:31
Methane	% vol	0	<0.1	<0.1	<0.1			<0.1	<0.1	<0.1			<0.1	<0.1	<0.1	7.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.4	0.3	2.6	0.3			2.8	0.3	0.8			0.5	1.2	1.0	13.2	0.4	0.5	0.2	1.1	<0.1	0.2	0.3	1	0.1	1.5	1.2
Oxygen	% vol	20.4	20.6	17.8	19.8			17.9	19.8	20.1			19.8	18.4	17.5	3.3	21	19.4	20.5	18.5	20.9	19.6	19.7	19.7	19.6	19.3	18.7
Atmospheric Pressure	mbars	1016	1025	1004	997			1001	984	998			1025	1011	1012	996	1010	1029	1012	1021	1007	1005	1022	1018	1034	1008	998
Gas Pressure	mbars	0.06	0.05	-0.02	-0.03			0.00	0.05	<0.1			<0.01	-0.08	<0.01	<0.05	-0.51	-0.17	-0.04	0.02	-0.13	0.03	0.06	-0.39	-0.05	0.03	-0.22
Gas Flow Rate	l/hr	0	+/-0.1	+/-0.1	+/-0.1			<0.1	-0.1	-0.3			-0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	0.2	<0.1	0.2	<0.1	0.2	<0.1	-0.2	<0.1
Insitu Liquid Determinations																											
pH	pH units									6.9				6.8		7.0		6.8		6.7		6.5		6.9	6.8	6.9	6.9
Electrical Conductivity	µS/cm									465				480		525		540		360		500		325	380	330	525
Dissolved Oxygen	mg/l									10.7				10.0		9.9		9.3		11.2		9		10.6	9.9	10.6	9.6
Temperature	℃			10.2						8.8				9.3		8.6		9.8		9.9		10		9.7	9.7	9.4	9.8
Comment				Waters taken on 14.06.10 at 13:52	Could not remove internal casing to take dip readings	Bolt Seized	Bolt Seized	Tap found open, bung dufficult to remove																			

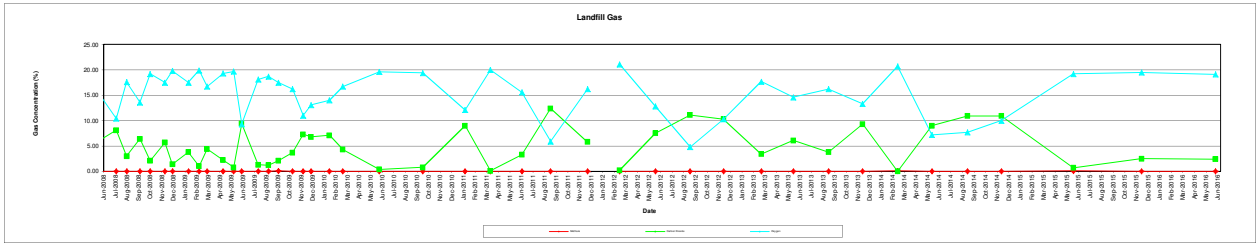
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T22**																		
Type Of Sample Required	Groundwater	21/06/04	04/08/04	24/08/04	24/09/04	05/11/04	17/11/04	14/12/04	25/01/05	09/03/05	18/04/05	09/05/05	23/06/05	21/07/05	15/08/05	13/09/05	02/11/05	18/11/05	07/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	9.92	9.90	9.90	9.91	10.68	10.10	10.66	10.67	9.60	9.90	7.24	7.10	8.46	11.62	11.65	11.98	11.60	8.98
Borehole depth to top of casing	m	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16
Casing Top relative to Ordnance Datum	m	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63
Water level relative to Ordnance Datum	m	30.71	30.73	30.73	30.72	29.95	30.53	29.97	29.96	31.03	30.73	33.39	33.53	32.17	29.01	28.98	28.65	29.03	31.65
Calculated purge volume	litres	77.76																	
Base of well (OD)		27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47
Gas Concentrations																			
Date monitored	-	21/06/04	04/08/04	24/08/04	24/09/04	05/11/2004	17/11/2004	14/12/2004	25/01/2005	09/03/2005	18/04/2005	09/05/2005	23/06/2005	21/07/2005	15/08/2005	13/09/2005	02/11/2005	18/11/2005	07/12/2005
Time of measurement	-		17:10	1600hrs	08:20	09:00	13:25	09:00	16:10	09:00	7.35pm	11.20	10.00	1.51	10.21	16:30	12:26	14:35	12:08
Methane	% vol	<0.1	<0.1	1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	9.2	0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	0.1
Carbon Dioxide	% vol	11.4	11.1	11.2	0.6	0.3	<0.1	0.2	12.6	<0.1	<0.1	<0.1	6.2	0.1	8.1	0.4	12.7	0.9	7.1
Oxygen	% vol	4.8	4.9	4.9	19.6	19.7	20.6	20.7	6.9	21.2	19.2	20.1	12.2	12.4	9.6	21.2	5.1	18.9	12.7
Atmospheric Pressure	mbars	1005	1012	997	1019	1014	998	996	993	1025	1010	1016	1010	1015	1015	1005	990	1022	1007
Gas Pressure	mbars	0.0	0.5	2.5	0.2	0.4	4.3	0.1	0.1	<0.1	1.1	1.1	<0.1	1.4	<0.1	0		3	4.2
Gas Flow Rate	l/hr	<0.1		2.6	3.2	<0.1	3.5	1.2	1.2	2.3	1.4	0.1	<0.1	1.1	1.1	1.2		<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units	6.5									5.4		6.6						6.2
Electrical Conductivity	µS/cm	907									170		7170						886
Dissolved Oxygen	mg/l	5.01									40.2		12.1						3.84
Temperature	℃	16.6									10		10						11.6
Comment					Watera tubing jammed. Unable to retrieve		Not required	Watera Halfway down pipe, unable to retrieve		Watera Stuck in pipe and nothing to retrieve it with		Watera stuck in pipe					Valve missing		



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T22																								
Type Of Sample Required	Groundwater	11/01/06	10/02/06	21/03/06	11/04/06	04/05/06	07/06/06	14/07/06	09/08/06	11/09/06	04/10/06	07/11/06	11/12/06	10/01/07	06/02/07	14/03/07	18/04/07	15/05/07	11/06/07	17/07/07	06/08/07	10/09/07	10/10/07	13/11/07	17/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	8.91	10.39	8.78	8.62	9.03	9.95	11.59	11.57	DRY	DRY	10.55	8.96	9.26	9.26	8.64	8.65	11.01	11.14	9.29	9.30	10.40	DRY	DRY	10.89
Borehole depth to top of casing	m	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16
Casing Top relative to Ordnance Datum	m	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63
Water level relative to Ordnance Datum	m	31.72	30.24	31.85	32.01	31.60	30.68	29.04	29.06			30.08	31.67	31.37	31.37	31.99	31.98	29.62	29.49	31.34	31.33	30.23			29.74
Calculated purge volume	litres						12.00			0.00	N/A		24.00	N/A		28.00	N/A	N/A	0.00	N/A	N/A	N/A	N/A	N/A	0.00
Base of well (OD)		27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47
Gas Concentrations																									
Date monitored	-	11/01/2006	10/02/2006	21/03/2006	11/04/2006	04/05/2006	07/06/2006	14/07/2006	09/08/2006	11/09/2006	04/10/2006	07/11/2006	11/12/2006	10/01/2007	06/02/2007	14/03/2007	18/04/2007	15/05/2007	11/06/2007	17/07/2007	06/08/2007	10/09/2007	10/10/2007	13/11/2007	17/12/2007
Time of measurement	-	11:16	10:15	10:20	15:30	16:10	16:03	09:42	10:42	11:00	11:00	11:00	13:47	15:05	16:15	11:00	16:10	11:40	12:05	11:00	12:20	15:00	10:45	10:00	11:47
Methane	% vol	0.1	0.00	0.00	0.0	0.0	0.0	0.1	0.1	0.0	0.2	0.1	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	8.4	7.80	4.20	1.5	3.4	8.2	1.7	1.3	8.9	1.7	11.2	9.5	0.4	0.5	0.3	0.4	0.0	0.0	6.2	5.1	0.7	1.5	5.8	7.6
Oxygen	% vol	11.7	13.00	15.80	19.0	17.3	10.4	18.3	18.7	10.1	18.1	8.7	9.2	20.6	20.5	20.6	20.5	20.5	20.7	7.9	13.3	19.5	18.6	15.0	14.2
Atmospheric Pressure	mbars	1000	1020	1010	990	1012	1018	1027	1002	1007	1001	1008	990	1000	1000	1021	1005	1009	1003	999	1004	1012	1021	1004	1035
Gas Pressure	mbars	0.4	<0.1	1	1.5	0.8	1	2.5	1.9	2.8	<0.1	2.5	1.2	1.3	<0.1	<0.1	<0.1	4.5	3.1	2.5	1.2	<0.1	<0.1	<0.1	0.6
Gas Flow Rate	l/hr	0.2	0.2	0.2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.2	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units			6.33			6.62						6.47			6.34									
Electrical Conductivity	µS/cm			631			743						1326			716									
Dissolved Oxygen	mg/l			7.98			6.73						1.69			1.18									
Temperature	℃			9.6			10.8						10.5			10.6									
Comment																			Insufficient to sample			Insufficient to sample			Insufficient to sample



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

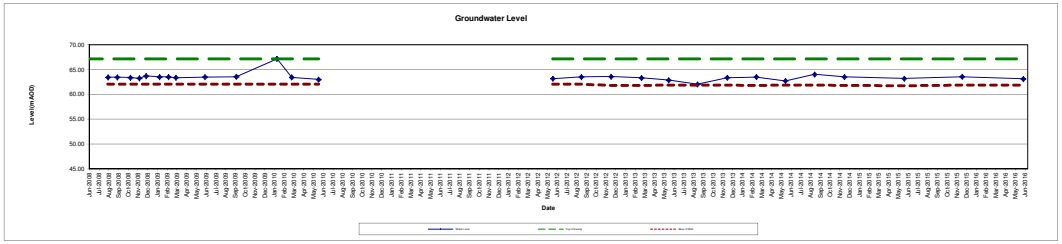
Sampling Location	**T22**																								
Type Of Sample Required	Groundwater	22/01/08	08/02/08	04/03/08	22/04/08	21/05/08	10/06/08	24/07/08	20/08/08	24/09/08	21/10/08	28/11/08	18/12/08	29/01/09	26/02/09	19/03/09	30/04/09	28/05/09	18/06/09	31/07/09	27/08/09	22/09/09	29/10/09	26/11/09	17/12/09
Determinand	Units																								
Water Level																									
Water level to top of casing	m	10.76	10.82	10.84	9.19	9.13	9.47	11.57	11.68	11.42	10.87	11.21	11.05	9.09	8.65	8.98	9.41	10.79	11.18	11.19	11.11	9.12	9.26	8.72	8.62
Borehole depth to top of casing	m	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16	13.16
Casing Top relative to Ordnance Datum	m	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63
Water level relative to Ordnance Datum	m	29.87	29.81	29.79	31.44	31.50	31.16	29.06	28.95	29.21	29.76	29.42	29.58	31.54	31.98	31.65	31.22	29.84	29.45	29.44	29.52	31.51	31.37	31.91	32.01
Calculated purge volume	litres	19	19	19	32	32	30	13	12	14	18.32	15.60	16.88	32.56	36.08	33.44	30.00	18.96	15.84	15.76	16.40	32.32	31.20	35.52	36.32
Base of well (OD)		27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47
Gas Concentrations																									
Date monitored	-	22/01/2008	08/02/2008	04/03/2008	22/04/2008	21/05/2008	10/06/2008	24/07/2008	20/08/2008	24/09/2008	21/10/2008	28/11/2008	18/12/2008	29/01/2009	26/02/2009	19/03/2009	30/04/2009	28/05/2009	18/06/2009	31/07/2009	27/08/2009	22/09/2009	29/10/2009	26/11/2009	17/12/2009
Time of measurement	-	12:00	14:05	11:40				00:00	13:02	07:12	02:24	07:40	00:14	12:43	15:31	15:51	15:40	12:28	15:42		11:54	11:09	11:12	12:46	13:18
Methane	% vol	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0
Carbon Dioxide	% vol	9.8	9.2	10.7	5.4	6.8	6.1	8.1	3.0	6.4	2.1	5.7	1.4	3.8	1	4.4	2.2	0.8	9.4	1.3	1.2	2.1	3.7	7.3	6.8
Oxygen	% vol	13.2	14.0	13.5	15.9	13.2	15.1	10.4	17.6	13.6	19.2	17.5	19.8	17.5	19.9	16.7	19.3	19.7	9.3	18.1	18.7	17.5	16.2	11	13.1
Atmospheric Pressure	mbars	1009	989	1022	1009	1012	1010	1010	992	1023	993	997	1003	1017	1011	1032	1011	1021	1000	1013	1002	1002	1018	973	1015
Gas Pressure	mbars	0.2	0.7	0.4	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.05	0.98	0	-0.02	0.02	0.04	0	0.16	0.02	0.05	-0.06	0.04	0.02	0.04
Gas Flow Rate	l/hr	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units				6.8	6	6.6				8.31	7.2	5.45	6	6.42		6.3	6.3					6.6	6.2	6.8
Electrical Conductivity	µS/cm				808	664	668				904	1010	826	776	679		649	783					724	651	768
Dissolved Oxygen	mg/l										0.61	0	0	1.28	3.1										
Temperature	℃					10	8				11.48	7	9.58	10.08	9.89		8	8					8	8	7
Comment		Insufficient to sample	Insufficient to sample	Insufficient to sample																					

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T22				(Sept mon)	(Dec Mon)	(March Mon)																					
Type Of Sample Required	Groundwater	03/02/10	10/03/10	14/06/10	06/10/10	25/01/11	01/04/11	23/06/11	06/09/11	12/12/11	12/01/12	01/02/12	05/03/12	07/06/12	06/09/12	03/12/12	12/03/13	04/06/13	04/09/13	02/12/13	04/03/14	02/06/14	03/09/14	01/12/14	08/06/15	04/12/15	15/06/16
Determinand	Units																											
Water Level																												
Water level to top of casing	m	0.00	8.71	11.09	11.78	8.77		11.50	8.99	10.20	9.40	9.38	10.01	9.12	8.73	9.11	9.08	11.01	11.70	9.46	8.73	11.11	11.51	8.65	9.44	9.62	9.45
Borehole depth to top of casing	m	13.16	12.04	12.05	11.97	12.05		12.08	12.08	12.02	12.02	12.05	12.13	12.06	12.06	12.05	12.04	12.04	12.06	12.02	12.12	12.02	12.07	12.09	12.06	12.10	12.04
Casing Top relative to Ordnance Datum	m	40.63	40.63	40.63	40.63	40.63		40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63	40.63
Water level relative to Ordnance Datum	m	40.63	31.92	29.54	28.85	31.86		29.13	31.64	30.43	31.23	31.25	30.62	31.51	31.90	31.52	31.55	29.62	28.93	31.17	31.90	29.52	29.12	31.98	31.19	31.01	31.18
Calculated purge volume	litres	105.28																										
Base of well (OD)		27.47	27.47	27.47	27.47	27.47		27.47	27.47	27.47	27.47	27.47	27.47	27.47	27.47	28.58	28.59	28.59	28.57	28.61	28.51	28.61	28.56	28.54	28.57	28.53	28.59
Gas Concentrations																												
Date monitored	-	03/02/2010	10/03/2010	14/06/2010	06/10/2010	24/01/2011	01/04/2011	23/06/2011	06/09/11	12/12/12			05/03/12	07/06/2012	06/09/12	03/12/12	12/03/13	04/06/13	04/09/13	02/12/13	04/03/14	02/06/14	03/09/14	01/12/14	08/06/15	04/12/15	15/06/16
Time of measurement	-	12:43	14:10	14:19	11:05		16:20	10:17	15:16	14:09			10:59	10:04	12:13	11:00	14:13	11:05	14:19	13:55	15:52	13:46	15:29	15:01	10:31	09:46	14:59
Methane	% vol	0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	7.1	4.3	0.4	0.8	9.0	0.1	3.3	12.4	5.8			0.2	7.5	11.1	10.3	3.4	6.1	3.8	9.3	<0.1	9	10.9	10.9	0.7	2.5	2.4
Oxygen	% vol	14	16.7	19.6	19.4	12.1	20.0	15.6	5.9	16.2			21.1	12.8	4.8	10.3	17.7	14.6	16.2	13.3	20.7	7.2	7.7	10	19.2	19.5	19.1
Atmospheric Pressure	mbars	1013	1025	1020	997	1020	999	1003	980	990			1021	997	1012	994	1009	1028	1011	1021	993	1010	1019	1008	1033	1008	996
Gas Pressure	mbars	-0.04	0.08	+/-0.01	0.02	0.07	-0.11	0.00	0.01	<0.1			0.01	0.03	<0.01	-0.07	-0.03	0.09	-0.09	-0.09	-0.18	0.24	-0.23	0.31	0.11	<0.01	-0.11
Gas Flow Rate	l/hr	0	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0	<0.1	0.1	0.1			0.1	0.1	<0.1	0.1	0.3	0.1	<0.1	0.3	<0.1	0.2	0.1	0.4	<0.1	-0.1	<0.1
Insitu Liquid Determinations																												
pH	pH units									6.4				6.3		6.4		6.4		6.3		6		6.2	6.4	6.5	6.3
Electrical Conductivity	µS/cm									650				615		775		715		680		625		525	625	1300	545
Dissolved Oxygen	mg/l									8.3				8.2		5.5		8.4		9		7.4		10.5	7.2	4.9	7.5
Temperature	℃			10.6						9.2				9.9		10.0		12.9		9.7		11.9		10.1	10.5	9.1	10.5
Comment							Could not remove bung to dip																				

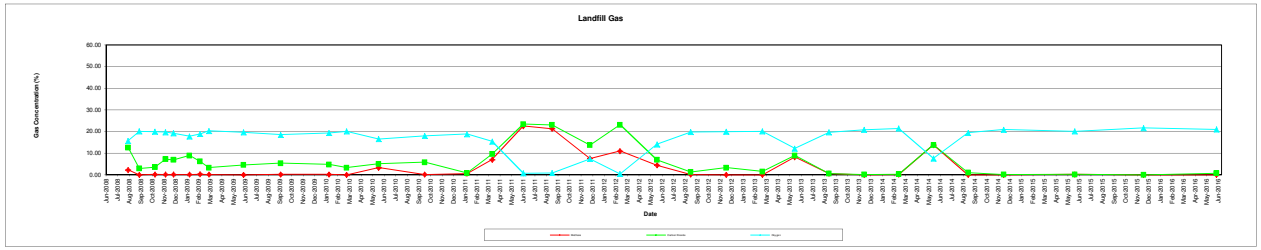
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T23																		
Type Of Sample Required	Leachate	22/06/04	04/08/04	24/08/04	23/09/04	28/10/04	17/11/04	14/12/04	25/01/05	09/03/05	18/04/05	11/05/05	23/06/05	21/07/05	15/08/05	13/09/05	29/10/05	17/11/05	07/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	4.45	4.30	4.50	4.52	4.53	4.52	4.51	4.53	3.74	4.51	2.28	2.40	3.81		4.49	3.77	3.88	3.62
Borehole depth to top of casing	m	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10		5.10	5.10	5.10	5.10
Casing Top relative to Ordnance Datum	m	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17		67.17	67.17	67.17	67.17
Water level relative to Ordnance Datum	m	62.72	62.87	62.67	62.65	62.64	62.65	62.66	62.64	63.43	62.66	64.89	64.77	63.36		62.68	63.40	63.29	63.55
Calculated purge volume	litres	15.60	19.20																
Base of well (OD)		62.07	62.07	62.07	62.07	62.07	62.07	62.07	62.07	62.07	62.07	62.07	62.07	62.07		62.07	62.07	62.07	62.07
Gas Concentrations																			
Date monitored	-	22/06/04	04/08/04	24/08/04	23/09/04	28/10/2004	17/11/2004	14/12/2004	25/01/2005	09/03/2005	18/04/2005	11/05/2005	23/06/2005	21/07/2005	15/08/2005	13/09/2005	29/10/2005	17/11/2005	07/12/2005
Time of measurement	-		14:50	1600hrs	15:40	14:00	14:00	11:35	16:15	11:40	7.56pm	12.45	11.45	2.30		18:21	12:19	15:20	11:49
Methane	% vol	<0.1	1.3	0.1	10.3	10	10.1	9.2	9	18.5	54.2	1.2	0.1	<0.1		27.5	15.1	1.3	13.2
Carbon Dioxide	% vol	0.2	1	<0.1	16.1	16.1	15.9	16	16.3	22.7	11	1.1	<0.1	<0.1		25.8	13.6	1.8	15.9
Oxygen	% vol	20.3	20.3	20.4	6.7	6.7	6.4	6.4	6.7	<0.1	10.3	16.4	19.5	19.5		0.7	9.4	18.8	6.8
Atmospheric Pressure	mbars	1004	1008	997	1004	1010	998	993	991	1019	1010	1010	1010	1016		1001	998	1010	1004
Gas Pressure	mbars	0.0		0.7	N/A		-	1.1	1.2	n/a	1.2	0.1	1.3	1.1		0			
Gas Flow Rate	l/hr	<0.1		/	N/A		-	0.8	1.3	n/a	1.6	0.1	1.1	0.1		<0.1			
Insitu Liquid Determinations																			
pH	pH units	6.0	6.5							6.77	6.2	4.61	6.54			6.31	6.8	6.7	6.61
Electrical Conductivity	µS/cm	2234	1715							1905	1250	764	1341			7410	1655	1530	1468
Dissolved Oxygen	mg/l	4.26	6							10.2	4.3	21.3	13.6			11.6	5.51	4.94	3.46
Temperature	ºC	16.0	15.8							11	10	11	10			13	12.9	11	12.6
Comment			open pipe	Ins to sample Open pipe	Open Valve. Insufficient Sample	Ins to sample Open pipe	Ins to sample Open pipe	Ins to sample Open pipe	Insufficient to Sample	No Valve							No Cap		No valve



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T23																								
Type Of Sample Required	Leachate	09/01/06	08/02/06	10/03/06	11/04/06	04/05/06	07/06/06	13/07/06	07/08/06	08/09/06	02/10/06	06/11/06	06/12/06	10/01/07	19/02/07	07/03/07	18/04/07	15/05/07	11/06/07	17/07/07	06/08/07	10/09/07	09/10/07	16/11/07	06/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	3.72	4.05	3.55	4.03	3.98	4.46	4.51	4.41	4.78	4.76	3.69	3.67	3.82	3.74	3.74	3.76	4.30	3.95	3.67	3.79	3.97	3.93	3.90	3.67
Borehole depth to top of casing	m	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10
Casing Top relative to Ordnance Datum	m	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17
Water level relative to Ordnance Datum	m	63.45	63.12	63.62	63.14	63.19	62.71	62.66	62.76	62.39	62.41	63.48	63.50	63.35	63.43	63.43	63.41	62.87	63.22	63.50	63.38	63.20	63.24	63.27	63.50
Calculated purge volume	litres						6.00	7.00	8.00	0.00	0.00	14.00	15.00	10.24	12.00	12.00	12.00	4.00	12.00	14.00	13.00	12.00	10.00	10.00	14.00
Base of well (OD)		62.07	62.07	62.07	62.07	62.07	62.07	62.07	62.07	62.07	62.07	62.07	62.07	62.07	62.07	62.07	62.07	62.07	62.07	62.07	62.07	62.07	62.07	62.07	62.07
Gas Concentrations																									
Date monitored	-	09/01/2006	08/02/2006	10/03/2006	11/04/2006	04/05/2006	07/06/2006	13/07/2006	07/08/2006	08/09/2006	02/10/2006	06/11/2006	06/12/2006	10/01/2007	19/02/2007	07/03/2007	18/04/2007	15/05/2007	11/06/2007	17/07/2007	06/08/2007	10/09/2007	09/10/2007	16/11/2007	06/12/2007
Time of measurement	-	13:25	14:00	12:34	13:45	15:55	11:20	15:42	14:23	13:45	14:45	14:30	14:30	10:40	14:10	12:30	10:00	10:00	15:10	12:45	12:50	13:05	14:05	15:30	11:05
Methane	% vol	5.3	16.80	2.60	2.0	13.3	2.4	0.0	0.0	12.3	11.9	3.7	10.7	0.4	7.5	7.5	6.9	20.7	10.0	1.1	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide	% vol	3.6	14.70	2.10	2.0	15.7	2.6	0.1	0.5	16.5	18.6	3.9	11.5	5.9	10.3	10.3	10.8	24.0	16.3	7.0	4.2	3.5	4.2	4.9	2.9
Oxygen	% vol	17.1	8.80	18.30	19.0	7.4	18.1	20.4	20.1	7.2	5.4	17.8	14.5	19.6	15.9	15.9	14.9	0.5	7.6	17.6	19.0	17.3	16.9	17.3	19.2
Atmospheric Pressure	mbars	1006	999	994	987	1009	1015	1014	1011	1016	993	1008	983	992	1003	1003	1005	1002	1009	1008	1001	1012	1015	1014	984
Gas Pressure	mbars		No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	2.7	9.7	5.6	5.6	6.1	3	1.9	1.9	0.2	0.3	0.1	<0.1	1.2
Gas Flow Rate	l/hr		No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	No Cap	<0.1	0.5	<0.1	<0.1	<0.1	<0.1	2.3	0.2	-1.4	-1.7	-0.5	<0.1	0.7
													11/12/2006												
Insitu Liquid Determinations													11:15												
pH	pH units	6.59	6.59	6.46	6.02	5.82	6.46	7.02	6.88			6.6	6.52	6.49	6.54	6.54	6.62	6.55	6.43	6.51	6.59	6.35	6.42	6.35	6.49
Electrical Conductivity	µS/cm	1410	1466	1251	1850	1730	1707	1730	1789			2550	2400	1964	2250	2250	1995	2458	1677	2015	2276	1398	1528	1720	1339
Dissolved Oxygen	mg/l	1.06	2.87	1.33	2.65	0.82	3.23	7.2	5.05			2.34	2.17	1.49	1.54	1.54	1.42	0.26	0.96	1.95	1.26	6.21	5.85	5.93	7.07
Temperature	ºC	11.6	12.8	7.5	8.7	12	15.1	12.5	14.5			11.7	10.4	11.6	10.8	10.8	10.7	11.7	12.4	11.9	12.3	12.6	12.8	12.2	11.4
Comment			No Cap/ Purged liquid was clear	No Cap/ Purged liquid was clear	No Cap/ Purged liquid was clear	No Cap/ Purged liquid was clear	No Cap/ Purged liquid was clear	No Cap/ Purged liquid was clear		Insufficient liquid to obtain sample	Insufficient liquid to obtain sample. No Cap	No Cap													



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

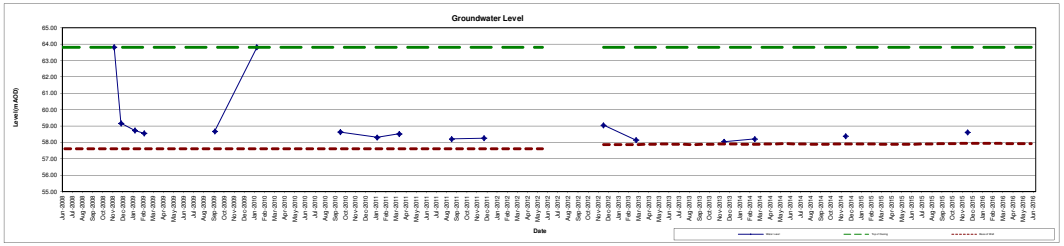
Sampling Location	**T23**																	
Type Of Sample Required	Leachate	10/01/08	05/02/08	05/03/08	22/04/08	19/05/08	09/06/08	16/07/08	18/08/08	16/09/08	27/10/08	24/11/08	15/12/08	26/01/09	23/02/09	18/03/09	17/06/09	23/09/09
Determinand	Units																	
Water Level																		
Water level to top of casing	m	3.58	3.64	3.92	3.69	3.91	4.05		3.73	3.71	3.78	3.93	3.47	3.65	3.65	3.83	3.68	3.64
Borehole depth to top of casing	m	5.10	5.10	5.10	5.10	5.10	5.10		5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10
Casing Top relative to Ordnance Datum	m	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17
Water level relative to Ordnance Datum	m	63.59	63.53	63.25	63.48	63.26	63.12		63.44	63.46	63.39	63.24	63.70	63.52	63.52	63.34	63.49	63.53
Calculated purge volume	litres	12	12	9	11	10	8		11	11	10.56	9.36	13.04	11.60	11.60	10.16	11.36	11.68
Base of well (OD)		62.07	62.07	62.07	62.07	62.07	62.07		62.07	62.07	62.07	62.07	62.07	62.07	62.07	62.07	62.07	62.07
Gas Concentrations																		
Date monitored	-	10/01/2008	05/02/2008	05/03/2008	22/04/2008	19/05/2008	09/06/2008	16/07/2008	18/08/2008	16/09/2008	27/10/2008	24/11/2008	15/12/2008	26/01/2009	23/02/2009	18/03/2009	17/06/2009	23/09/2009
Time of measurement	-	11:20	11:25	14:45					16:10	04:48	09:50	03:50	00:00	04:33	16:20	14:29	12:37	14:22
Methane	% vol	0.0	0.0	0.0	2.3	0.7	0.2		2.3	0.0	0.2	0.1	0.1	0.1	0.3	0.1	0	0.2
Carbon Dioxide	% vol	3.6	3.6	1.6	11.2	9.4	12.4		12.6	2.9	3.5	7.2	6.9	8.9	6.2	3.3	4.6	5.4
Oxygen	% vol	19.0	19.0	20.5	14.6	16.1	14.8		15.7	20.1	19.9	19.7	19.2	17.8	18.9	20.3	19.6	18.5
Atmospheric Pressure	mbars	974	997	1006	1010	1013	1005		981	1011	997	1009	1010	1000	1018	1022	1000	1006
Gas Pressure	mbars	1.4	0.4	1.4	<0.1	1.3	1.7		0.8	-1.2	<0.1	1.62	-0.01	-1.05	1.1	0.1	0.31	0.12
Gas Flow Rate	l/hr	0.4	0.2	<0.1	<0.1	-0.8	-1.9		-1.6	-2.6	<0.1	1	-2.2	-3.8	<0.1	-1.7	-2.6	-1.9
Insitu Liquid Determinations																		
pH	pH units	6.57	6.35	6.43	8.3	6.4	7.2	6.8		6.59		6.8	0	6.55	6.56			
Electrical Conductivity	µS/cm	1410	1267	1487	1260	1216	1230	1430		1601		1330	0	1533	1467			
Dissolved Oxygen	mg/l	6.94	7.45	6.83						0		0	0	0.22	1.26			
Temperature	℃	10.9	11.1	11.4	10	11	9	9		11.94		8	0	10.4	10.65			
Comment																		

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T23**				(Sept mon)	(Dec Mon)	(March Mon)																		
Type Of Sample Required	Leachate	28/01/10	15/03/2010	07/06/2010	06/10/2010	25/01/11	01/04/11	22/06/11	06/09/11	14/12/11	02/03/12	07/06/12	04/09/12	06/12/12	11/03/13	04/06/13	02/09/13	03/12/13	04/03/14	03/06/14	02/09/14	04/12/14	09/06/15	07/12/15	15/06/16
Determinand	Units																								
Water Level																									
Water level to top of casing	m	0.00	3.74	4.18								4.01	3.66	3.59	3.84	4.30	5.15	3.8	3.69	4.46	3.15	3.65	3.99	3.62	4.05
Borehole depth to top of casing	m	5.10	5.38	5.37								5.37	5.36	5.36	5.35	5.32	5.33	5.32	5.35	5.33	5.33	5.35	5.43	5.32	5.34
Casing Top relative to Ordnance Datum	m	67.17	67.17	67.17								67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17	67.17
Water level relative to Ordnance Datum	m	67.17	63.43	62.99								63.16	63.51	63.58	63.33	62.87	62.02	63.37	63.48	62.71	64.02	63.52	63.18	63.55	63.12
Calculated purge volume	litres	40.80																							
Base of well (OD)		62.07	62.07	62.07								62.07	62.07	61.81	61.82	61.85	61.84	61.85	61.82	61.84	61.84	61.82	61.74	61.85	61.83
Gas Concentrations																									
Date monitored	-	28/01/2010	15/03/2010	07/06/2010	06/10/2010	24/01/2011	01/04/2011	22/06/2011	06/09/11	14/12/12	02/03/12	07/06/2012	04/09/12	06/12/12	11/03/13	04/06/13	02/09/13	03/12/13	04/03/14	03/06/14	02/09/14	04/12/14	09/06/15	07/12/15	15/06/16
Time of measurement	-	12:28	14:55	14:51	14:06		12:25	13:08	11:35	10:02	13:09	11:28	11:12	10:14	16:15	13:31	11:37	12:02	10:26	14:19	14:35	11:34	12:48	11:55	14:05
Methane	% vol	0.2	<0.1	3.3	0.1	0.6	7.0	22.5	21.3	7.5	11.0	4.4	0.1	<0.1	<0.1	8.2	0.6	<0.1	0.1	13.8	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	4.8	3.3	5.1	5.8	0.8	9.6	23.4	23.0	13.7	23.1	6.9	1.3	3.3	1.5	8.9	0.6	0.1	0.3	13.8	1	0.1	0.2	<0.1	0.7
Oxygen	% vol	19.3	20.1	16.5	18.0	18.8	15.4	0.7	0.9	7.4	0.4	14.1	19.8	19.9	20.1	12.2	19.6	20.8	21.4	7.6	19.4	20.9	20.1	21.6	21
Atmospheric Pressure	mbars	1011	1010	1002	988	1020	996	999	979	968	1020	994	1010	995	1014	1023	1008	1011	986	1002	1015	1011	1029	1012	996
Gas Pressure	mbars	0.09	1.47	+/-0.01	0.04	0.06	-0.04	0.00	0.01	-0.11	0.11	<0.01	-0.03	0.02	-0.09	-0.32	0.04	-0.24	-0.14	-0.27	0.03	0.04	-0.06	-0.01	-0.13
Gas Flow Rate	l/hr	0	0.4	+/-0.1	+/-0.1	+/-0.1	0	<0.1	3.6	-0.1	-0.1	<0.1	-0.1	<0.1	0.2	<0.1	<0.1	<0.1	-0.3	0.2	0.3	-0.1	<0.1	<0.1	-0.1
Insitu Liquid Determinations																									
pH	pH units											6.6	6.7	6.6		6.5	6.6	6.5	6.6	6.3	6.5		6.7		6.6
Electrical Conductivity	µS/cm											1050	1010	1010		1050	1340	1040	950	1030	1180		1160		1210
Dissolved Oxygen	mg/l											1.5	2.3	2.3		1.6		5.9	6.4				4.7		4.2
Temperature	℃			13.6								10.1	11.2	7.7	8.9	12.8	14.6	10.4	9.3	12.7	13.1		12.3		10
Comment					Could not remove bung, no sample taken	Could not remove bung to dip	Could not remove bung to dip	Could not remove bung to dip	Bung stuck - could not be removed	Bung couldn't be removed.	Bung could not be removed	Padlock removed - key did not fit. Spot sample taken.														

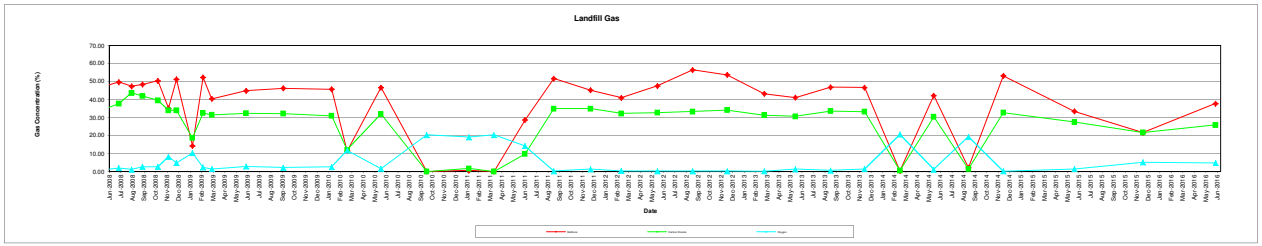
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T24																		
Type Of Sample Required	None	22/06/04	04/08/04	24/08/04	23/09/04	28/10/04	17/11/04	14/12/04	25/01/05	09/03/05	19/04/05	11/05/05	23/06/05	21/07/05	15/08/05	13/09/05	01/11/05	17/11/05	07/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	6.01	6.50	3.71	3.40	5.31			6.89	Dry	5.42
Borehole depth to top of casing	m	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20			6.20	6.20	6.20
Casing Top relative to Ordnance Datum	m	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81			63.81	63.81	63.81
Water level relative to Ordnance Datum	m									57.80	57.31	60.10	60.41	58.50			56.92		58.39
Calculated purge volume	litres									1.52	-2.40	19.92	22.40	7.12			-5.52		6.24
Base of well (OD)		57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61			57.61	57.61	57.61
Gas Concentrations																			
Date monitored	-	22/06/04	04/08/04	24/08/04	23/09/04	28/10/2004	17/11/2004	14/12/2004	25/01/2005	09/03/2005	19/04/2005	11/05/2005	23/06/2005	21/07/2005	15/08/2005	13/09/2005	01/11/2005	17/11/2005	07/12/2005
Time of measurement	-		14:45	1605hrs	15:40	16:10	13:40	11:50	16:20	11:30	7.20am	1.34	1.30	3.21			13:01	15:10	11:38
Methane	% vol	48.80	59.9	37.2	37.3	38	37.6	37.4	36.9	55.5	3.6	1.1	<0.1	1.1			53.1	54.2	57.2
Carbon Dioxide	% vol	30.80	38.9	25.4	25.4	24.9	25.2	25.2	26.1	33.1	0.1	0.1	10.1	1.2			33.8	35	34.1
Oxygen	% vol	2.6	<0.1	5.8	5.6	5.7	5.6	5.6	5.4	0.4	0.1	15.3	11	20.3			<0.1	<0.1	0.4
Atmospheric Pressure	mbars	1004	1009	997	1004	1010	998	993	992	1020	1010	1010	1010	1016			992	1011	1004
Gas Pressure	mbars	0.5	6.7	0.9	2.6	2.6	2.4	1.2	1	0.1	2.1	0.1	<0.1	<0.1			3.1	0.8	4.1
Gas Flow Rate	l/hr	1.3		2.6	3.1	3	3	0.6	0.8	1.6	3.2	0.1	0.1	0.1			<0.1	0.1	0.1
Insitu Liquid Determinations																			
pH	pH units																		
Electrical Conductivity	µS/cm																		
Dissolved Oxygen	mg/l																		
Temperature	ºC																		
Comment															Cannot Locate	Cannot Locate			



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T24																								
Type Of Sample Required	None	09/01/06	08/02/06	10/03/06	11/04/06	04/05/06	07/06/06	13/07/06	07/08/06	08/09/06	02/10/06	06/11/06	06/12/06	09/01/07	19/02/07	07/03/07	18/04/07	15/05/07	11/06/07	17/07/07	06/08/07	10/09/07	09/10/07	16/11/07	06/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	5.98	DRY	3.46	3.78	DRY	DRY	DRY	DRY	DRY	DRY	5.79	5.70	5.70	5.70	5.66	5.66	5.68	DRY	DRY	DRY	DRY	DRY	DRY	5.55
Borehole depth to top of casing	m	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20
Casing Top relative to Ordnance Datum	m	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81
Water level relative to Ordnance Datum	m	57.83		60.35	60.03							58.02	58.11	58.11	58.11	58.15	58.15	58.13							58.26
Calculated purge volume	litres	1.76		21.92	19.36							3.28	4.00	4.00	4.00	4.32	4.32	4.16							5.20
Base of well (OD)		57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61
Gas Concentrations																									
Date monitored	-	09/01/2006	08/02/2006	10/03/2006	11/04/2006	04/05/2006	07/06/2006	13/07/2006	07/08/2006	08/09/2006	02/10/2006	06/11/2006	06/12/2006	09/01/2007	19/02/2007	07/03/2007	18/04/2007	15/05/2007	11/06/2007	17/07/2007	06/08/2007	10/09/2007	09/10/2007	16/11/2007	06/12/2007
Time of measurement	-	13:58	14:43	12:24	13:30	15:45	11:10	15:32	14:12	13:20	14:34	14:15	14:15	14:10	14:05	15:15	10:45	11:30	16:10	13:20	13:25	12:55	13:55	15:15	10:55
Methane	% vol	61.5	53.40	19.60	49.1	45.1	49.3	48.5	47.6	49.0	0.0	53.0	44.7	41.2	40.5	39.6	37.2	36.4	46.2	41.0	35.8	36.5	37.2	34.2	38.7
Carbon Dioxide	% vol	34.6	32.50	17.50	30.2	30.2	32.8	33.4	34.4	35.2	6.3	35.7	35.7	36.3	32.3	31.4	30.9	32.3	33.4	35.1	30.7	31.0	31.8	29.7	33.9
Oxygen	% vol	0.7	1.90	7.90	0.3	0.2	0.4	0.9	0.6	0.4	14.2	1.2	1.3	0.8	2.1	1.8	2.1	1.8	0.4	0.7	1.2	0.9	0.5	1.2	0.7
Atmospheric Pressure	mbars	1006	1000	995	987	1009	1016	1014	1011	1016	993	1009	983	977	1003	989	1005	1001	1009	1008	1001	1012	1015	1014	984
Gas Pressure	mbars	1.2	1.2	-0.8	1.5	0.9	0.4	4.2	3.3	4.8	2.6	4.9	0.6	0.7	0.4	0.5	0.7	0.8	1.2	0.7	<0.1	<0.1	<0.1	<0.1	<0.1
Gas Flow Rate	l/hr	0.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	<0.1	<0.1	1	0.5	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment								Cannot Add Bolt Standpipe To High		No Lock standpipe to high	No Lock standpipe to high	No Lock standpipe to high													



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

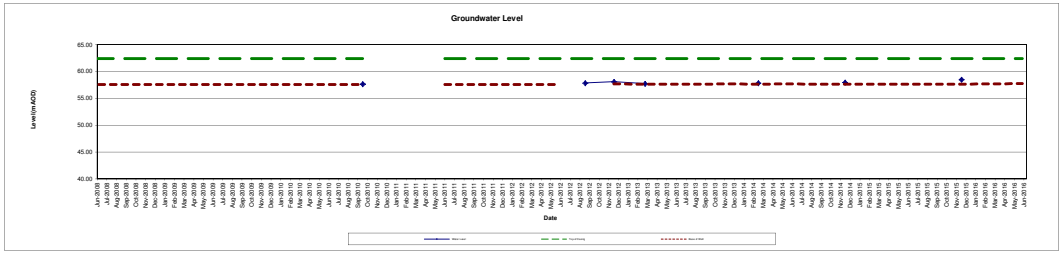
Sampling Location	**T24**																	
Type Of Sample Required	None	10/01/08	05/02/08	05/03/08	22/04/08	19/05/08	09/06/08	16/07/08	19/08/08	16/09/08	27/10/08	24/11/08	15/12/08	26/01/09	23/02/09	18/03/09	17/06/09	23/09/09
Determinand	Units																	
Water Level																		
Water level to top of casing	m	5.51	5.48	5.50	5.68	DRY	DRY	DRY	DRY	DRY	DRY	DRY	4.64	5.08	5.25			5.13
Borehole depth to top of casing	m	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20	6.20
Casing Top relative to Ordnance Datum	m	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81
Water level relative to Ordnance Datum	m	58.30	58.33	58.31	58.13							63.81	59.17	58.73	58.56			58.68
Calculated purge volume	litres	5.52	5.76	5.60	4.16							49.60	12.48	8.96	7.60			8.56
Base of well (OD)		57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61
Gas Concentrations																		
Date monitored	-	10/01/2008	05/02/2008	05/03/2008	22/04/2008	19/05/2008	09/06/2008	16/07/2008	19/08/2008	16/09/2008	27/10/2008	24/11/2008	15/12/2008	26/01/2009	23/02/2009	18/03/2009	17/06/2009	23/09/2009
Time of measurement	-	11:10	11:15	14:35				00:00	14:22	00:43	08:09	07:26	02:09	07:12	16:13	14:16	13:17	14:11
Methane	% vol	35.2	40.5	37.4	35.2	49.6	47.4	49.6	47.3	48.3	50.3	35.1	51.1	14.3	52.2	40.3	44.8	46.2
Carbon Dioxide	% vol	32.6	31.8	32.6	32.5	34.5	34.7	37.6	43.6	41.9	39.5	34	33.9	18.6	32.5	31.4	32.3	32.1
Oxygen	% vol	1.2	1.8	1.3	1.6	0.5	1.0	2.0	1.2	2.7	2.7	8.3	4.8	10.3	2.3	1.4	2.8	2.2
Atmospheric Pressure	mbars	974	997	1006	1010	1010	1005	0	980	1010	998	1010	1010	1001	1019	1022	1000	1006
Gas Pressure	mbars	<0.1	<0.1	<0.1	-0.7	<0.1	<0.1	<0.1	<0.1	6.5	7	0	4.83	1.15	3.52	-0.03	3.84	2.87
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	-2.9	<0.1	<0.1	<0.1
Insitu Liquid Determinations																		
pH	pH units																	
Electrical Conductivity	µS/cm																	
Dissolved Oxygen	mg/l																	
Temperature	℃																	
Comment																		

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T24**				(Sept mon)	(Dec Mon)	(March Mon)																		
Type Of Sample Required	None	28/01/10	10/03/2010	07/06/2010	06/10/2010	25/01/11	01/04/11	22/06/11	06/09/11	12/12/11	02/03/12	05/06/12	06/09/12	06/12/12	14/03/13	04/06/2013	05/09/2013	03/12/13	06/03/14	03/06/14	03/09/14	04/12/14	09/06/15	07/12/15	15/06/16
Determinand	Units																								
Water Level																									
Water level to top of casing	m		4.64		5.18	5.50	5.28	Dry	5.60	5.55	Dry	Dry		4.76	5.67	Dry	Dry	5.76	5.6	Dry	Dry	5.42	Dry	5.2	Dry
Borehole depth to top of casing	m	6.20	5.81	5.74	5.72	5.76	5.78	5.90	5.80	5.76	5.95	5.94		5.95	5.94	5.91	5.94	5.9	5.93	5.89	5.92	5.91	5.93	5.86	5.88
Casing Top relative to Ordnance Datum	m	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81		63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81	63.81
Water level relative to Ordnance Datum	m	63.81			58.63	58.31	58.53		58.21	58.26				59.05	58.14			58.05	58.21			58.39		58.61	
Calculated purge volume	litres	49.60																							
Base of well (OD)		57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61	57.61		57.86	57.87	57.90	57.87	57.91	57.88	57.92	57.89	57.90	57.88	57.95	57.93
Gas Concentrations																									
Date monitored	-	28/01/2010	10/03/2010	07/06/2010	06/10/2010	24/01/2011	01/04/2011	22/06/2011	06/09/11	12/12/12	02/03/12	05/06/2012	06/09/12	06/12/12	14/03/13	04/06/2013	05/09/2013	03/12/13	06/03/14	03/06/14	03/09/14	04/12/14	09/06/15	07/12/15	15/06/16
Time of measurement	-	14:09	13:05	14:39	14:21		17:00	13:27	14:20	10:48	13:16	14:14	14:54	09:50	12:03	15:08	11:24	12:51	14:36	14:59	11:51	13:29	13:57	12:42	14:46
Methane	% vol	45.6	11.4	46.6	<0.1	0.6	<0.1	28.6	51.6	45.1	40.9	47.5	56.4	53.6	43.1	41	46.8	46.6	0.4	42.2	2.1	53.1	33.4	21.6	37.7
Carbon Dioxide	% vol	30.9	12.0	31.9	<0.1	1.7	<0.1	9.8	34.9	34.9	32.2	32.7	33.3	34.1	31.2	30.6	33.6	33.2	0.5	30.4	1.4	32.7	27.4	21.7	25.8
Oxygen	% vol	2.6	11.7	1.6	20.3	19.1	20.3	14.2	0.3	1.3	0.4	0.3	0.3	0.3	0.2	1.3	0.6	1.4	20.6	1.2	19.3	0.2	1.4	5.2	4.8
Atmospheric Pressure	mbars	1011	1023	1002	989	1020	999	999	978	987	1020	1005	1005	996	1004	1023	1006	1011	1007	1001	1018	1012	1028	1012	996
Gas Pressure	mbars	4.11	+/-0.01	-0.08	+/-0.01	0.09	-0.2	0.00	0.01	<0.1	0.09	<0.01	<0.01	0.10	-0.03	-0.37	-0.03	<0.01	-0.15	0.03	-0.1	0.11	-0.09	0.01	-0.09
Gas Flow Rate	l/hr	0	-0.1	+/-0.1	+/-0.1	+/-0.1	-0.1		<0.1	<0.1	<0.1	-0.1	N/A	<0.1	0.1	<0.1	0.1	0.2	<0.1	0.2	<0.1	-0.1	0.1	0.2	<0.1
Insitu Liquid Determinations																									
pH	pH units													6.7											
Electrical Conductivity	µS/cm													1710											
Dissolved Oxygen	mg/l													4.4											
Temperature	℃													11.0											
Comment						Insufficient to sample	Insufficient to sample	Tap blocked. Gas levels measured in open borehole	Tap broken and stuck in open position	Tap stuck in open position.	Gas tap requires replacing		Bung couldn't be removed				Gas tap above lid.								

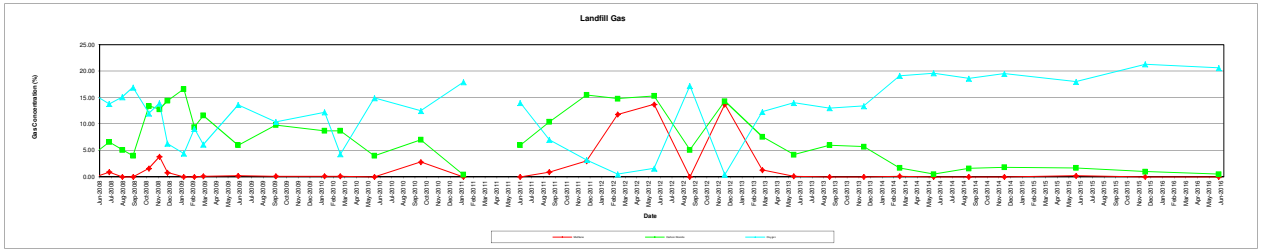
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T25a**																		
Type Of Sample Required	Leachate	22/06/04	04/08/04	24/08/04	23/09/04	28/10/04	17/11/04	14/12/04	25/01/05	09/03/05	19/04/05	11/05/05	23/06/05	21/07/05	15/08/05	13/09/05	01/11/05	17/11/05	07/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	4.73	4.72	Dry	4.74	4.75	4.75	Dry	Dry	4.64	3.81	3.61	3.10	Dry		Dry	Dry	Dry	Dry
Borehole depth to top of casing	m	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85		4.85	4.85	4.85	4.85
Casing Top relative to Ordnance Datum	m	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39		62.39	62.39	62.39	62.39
Water level relative to Ordnance Datum	m	57.66	57.67	57.61	57.65	57.64	57.64	57.61	57.61	57.75	58.58	58.78	59.29						
Calculated purge volume	litres	2.88	3.12																
Base of well (OD)		57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54		57.54	57.54	57.54	57.54
Gas Concentrations																			
Date monitored	-	22/06/04	04/08/04	24/08/04	23/09/04	28/10/2004	17/11/2004	14/12/2004	25/01/2005	09/03/2005	19/04/2005	11/05/2005	23/06/2005	21/07/2005	15/08/2005	13/09/2005	01/11/2005	17/11/2005	07/12/2005
Time of measurement	-		14:40	1730hrs	15:50	16:15	14:10	12:00	16:25	11:20	8.10am	2.00	3.00	4.05		18:00	12:45	14:57	11:28
Methane	% vol	0.10	<0.1	1	0.5	0.2	<0.1	<0.1	<0.1	0.2	1.1	1.3	<0.1	0.1		16.5	3.5	1.8	3.5
Carbon Dioxide	% vol	1.9	0.5	4	9.1	9	9.1	8.8	8.4	6.2	0.8	1.1	6.4	0.1		9.2	12.7	15.7	14.3
Oxygen	% vol	18.5	21.3	14.7	9.3	9.2	9	10.2	9.3	13.6	19.4	17.4	9.5	17.6		17.5	5.5	1	0.5
Atmospheric Pressure	mbars	1004	1009	998	1006	1010	998	992	992	1020	1011	1010	1010	1015		1003	992	1011	1004
Gas Pressure	mbars	0.0	6.2	<0.1	4.4	4.2	4.2	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1		0	5.4	0.7	2.6
Gas Flow Rate	l/hr	<0.1		2.7	2.8	2.8	2.7	1.1	1.2	1.8	2.1	0.1	0.1	<0.1		0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																			
pH	pH units										4.45	6.71	7.21						
Electrical Conductivity	µS/cm										3260	2491	2581						
Dissolved Oxygen	mg/l										15.1	29.1	11.2						
Temperature	℃										11	11	10						
Comment		Insufficient Sample	Insufficient to sample		Insufficient Sample		Insufficient Sample			Insufficent to Sample									



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T25a**																								
Type Of Sample Required	Leachate	09/01/06	08/02/06	10/03/06	11/04/06	04/05/06	07/06/06	13/07/06	07/08/06	08/09/06	02/10/06	06/11/06	06/12/06	09/01/07	19/02/07	14/03/07	18/04/07	15/05/07	11/06/07	17/07/07	06/08/07	10/09/07	09/10/07	16/11/07	06/12/07
Determinand	Units																								
Water Level																									
Water level to top of casing	m	Dry	DRY	4.59	4.54	4.67	DRY	4.70	4.68	Dry	Dry	Dry	4.71	4.69	4.70	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	4.71
Borehole depth to top of casing	m	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85
Casing Top relative to Ordnance Datum	m	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39
Water level relative to Ordnance Datum	m			57.80	57.85	57.72		57.69	57.71				57.68	57.70	57.69										
Calculated purge volume	litres						0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	DRY	DRY	DRY	DRY	DRY	DRY	DRY
Base of well (OD)		57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54
Gas Concentrations																									
Date monitored	-	09/01/2006	08/02/2006	10/03/2006	11/04/2006	04/05/2006	07/06/2006	13/07/2006	07/08/2006	08/09/2006	02/10/2006	06/11/2006	06/12/2006	09/01/2007	19/02/2007	14/03/2007	18/04/2007	15/05/2007	11/06/2007	17/07/2007	06/08/2007	10/09/2007	09/10/2007	16/11/2007	06/12/2007
Time of measurement	-	14:17	14:53	12:10	13:15	15:30	11:00	15:20	14:00	13:00	14:20	13:50	14:00	13:55	13:50	12:50	11:00	11:45	16:20	13:30	13:35	12:40	13:40	15:00	10:45
Methane	% vol	0.8	1.00	2.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0	0	0	0	0	0.7	1.3	1.2	2.2	2.7	2.1	3.8
Carbon Dioxide	% vol	14	14.10	11.00	10.0	6.1	4.9	5.4	5.1	5.7	6.3	7.3	6.1	7.4	5.3	6.4	7.1	9.5	6.8	6.9	5	6.4	8.1	5.9	10.5
Oxygen	% vol	3.4	1.20	2.10	6.8	11.4	14.3	13.8	14.2	14.0	14.2	13.0	14.8	14.2	15.6	15.4	15.2	14.8	11.3	12	16.4	15.5	14.8	15.8	12.2
Atmospheric Pressure	mbars	1005	1000	995	988	1010	1016	1015	1012	1016	993	1009	984	977	1003	1020	1005	1001	1009	1008	1001	1012	1015	1014	985
Gas Pressure	mbars	1.5	0.7	-1.7	1.5	0.5	1.4	2.2	2.5	2.4	2.6	0.7	0.6	0.4	0.2	<0.1	<0.1	<0.1	1.2	0.8	<0.1	<0.1	<0.1	<0.1	0.5
Gas Flow Rate	l/hr	0.2	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃																								
Comment									Insufficient liquid to purge						Insufficient liquid to obtain sample										



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

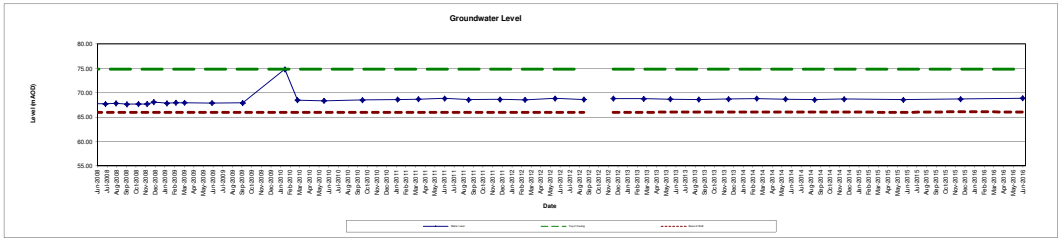
Sampling Location	**T25a**																	
Type Of Sample Required	Leachate	10/01/08	05/02/08	05/03/08	22/04/08	19/05/08	09/06/08	16/07/08	19/08/08	16/09/08	27/10/08	24/11/08	15/12/08	26/01/09	23/02/09	18/03/09	17/06/09	23/09/09
Determinand	Units																	
Water Level																		
Water level to top of casing	m	4.68	4.69	DRY	4.71	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
Borehole depth to top of casing	m	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85
Casing Top relative to Ordnance Datum	m	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39
Water level relative to Ordnance Datum	m	57.71	57.70		57.68													
Calculated purge volume	litres	1	1		1	DRY												
Base of well (OD)		57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54	57.54
Gas Concentrations																		
Date monitored	-	10/01/2008	05/02/2008	05/03/2008	22/04/2008	19/05/2008	09/06/2008	16/07/2008	19/08/2008	16/09/2008	27/10/2008	24/11/2008	15/12/2008	26/01/2009	23/02/2009	18/03/2009	17/06/2009	23/09/2009
Time of measurement	-	11:00	11:00	14:25				00:00	14:13	02:52	06:43	10:33	03:50	02:52	16:04	14:04	13:35	13:58
Methane	% vol	4.2	4.7	5.6	0	0	0	0.9	0	0	1.6	3.8	0.8	0	0	0.1	0.2	0.1
Carbon Dioxide	% vol	12.1	11.8	10.2	12.5	6.7	4.5	6.6	5.1	4	13.4	12.8	14.4	16.6	9.4	11.6	6	9.8
Oxygen	% vol	11.8	14.2	15.3	3.8	11.8	15.4	13.8	15.1	16.9	12	13.9	6.3	4.4	9.1	6.1	13.6	10.4
Atmospheric Pressure	mbars	974	997	1006	1010	1010	1005	0	980	1010	996	1011	1010	1000	1019	1022	1000	1006
Gas Pressure	mbars	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.09	1.63	1.25	0.75	-0.03	0.06	0.05
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.1	0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																		
pH	pH units																	
Electrical Conductivity	µS/cm																	
Dissolved Oxygen	mg/l																	
Temperature	ºC																	
Comment		Insufficient liquid to obtain sample	Insufficient liquid to obtain sample	Insufficient liquid to obtain sample														

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T25a**				(Sept mon)	(Dec Mon)	(March Mon)																		
Type Of Sample Required	Leachate	28/01/10	10/03/2010	07/06/2010	06/10/2010	25/01/11	01/04/11	22/06/11	06/09/11	12/12/11	02/03/12	05/06/12	06/09/12	06/12/12	14/03/13	04/06/2013	05/09/2013	03/12/13	06/03/14	03/06/14	03/09/14	04/12/14	09/06/15	07/12/15	15/06/16
Determinand	Units																								
Water Level																									
Water level to top of casing	m	Dry	4.75	Dry	4.77			Dry	Dry	Dry	Dry	Dry	4.58	4.33	4.68	Dry	Dry	Dry	4.62	Dry	Dry	4.46	Dry	3.93	Dry
Borehole depth to top of casing	m	4.85	4.80	4.79	4.79			4.78	4.76	4.76	4.79	4.77	4.80	4.74	4.80	4.77	4.79	4.71	4.8	4.73	4.8	4.79	4.79	4.78	4.7
Casing Top relative to Ordnance Datum	m	62.39	62.39	62.39	62.39			62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39	62.39
Water level relative to Ordnance Datum	m				57.62								57.81	58.06	57.71				57.77			57.93		58.46	
Calculated purge volume	litres																								
Base of well (OD)		57.54	57.54	57.54	57.54			57.54	57.54	57.54	57.54	57.54		57.65	57.59	57.62	57.60	57.68	57.59	57.66	57.59	57.60	57.60	57.61	57.69
Gas Concentrations																									
Date monitored	-	28/01/2010	10/03/2010	07/06/2010	06/10/2010	25/01/2011		22/06/2011	06/09/11	12/12/12	02/03/12	05/06/2012	06/09/12	06/12/12	14/03/13	04/06/2013	05/09/2013	03/12/13	06/03/14	03/06/14	03/09/14	04/12/14	09/06/15	07/12/15	15/06/16
Time of measurement	-	01:26	13:20	14:18	14:34			13:45	14:29	11:12	13:25	14:23	15:06	09:37	11:51	15:19	11:32	12:59	14:44	14:09	11:43	13:46	14:06	12:35	14:36
Methane	% vol	0.1	0.1	<0.1	2.8	<0.1		<0.1	0.9	3.0	11.8	13.7	<0.1	13.7	1.3	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	8.7	8.7	4	7.0	0.4		6.0	10.4	15.5	14.8	15.3	5.1	14.3	7.6	4.2	6	5.7	1.7	0.5	1.6	1.8	1.7	1	0.5
Oxygen	% vol	12.2	4.3	14.9	12.5	17.9		14.0	7.0	3.2	0.5	1.6	17.2	0.4	12.3	14	13	13.4	19.1	19.6	18.6	19.5	18	21.3	20.6
Atmospheric Pressure	mbars	1011	1023	1002	989	1008		999	978	987	1020	1005	1005	997	1004	1023	1006	1012	1007	1002	1018	1012	1028	1012	996
Gas Pressure	mbars	0.02	0.03	+/-0.01	0.05	-0.5		0.00	0.01	<0.1	0.13	0.01	<0.01	0.41	-0.05	<0.01	0.26	0.07	-0.13	-0.31	-0.09	0.15	-0.01	-0.09	-0.12
Gas Flow Rate	l/hr	0	+/-0.1	+/-0.1	+/-0.1	-0.2		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.6	0.1	<0.1	0.1	0.2	<0.1	0.1	<0.1	-0.2	0.2	<0.1	-0.1
Insitu Liquid Determinations																									
pH	pH units																								
Electrical Conductivity	µS/cm																								
Dissolved Oxygen	mg/l																								
Temperature	℃															see comment									
Comment						Could not remove bung to dip	Bolt Seized									Dry, tap above lid requires attention									

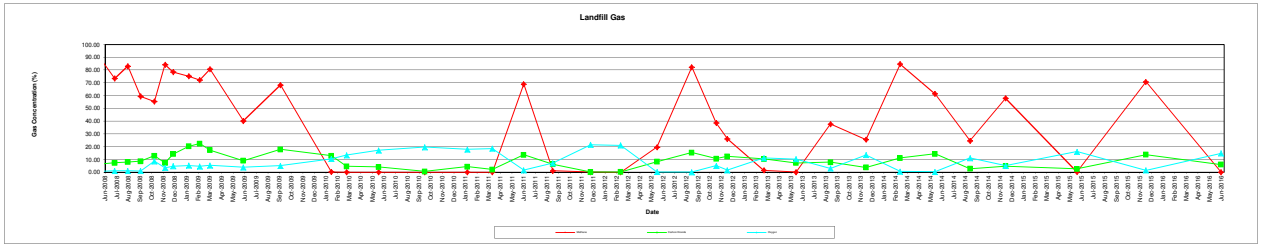
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T26																		
Type Of Sample Required	Leachate	22/06/04	04/08/04	24/08/04	23/09/04	28/10/04	17/11/04	14/12/04	25/01/05	09/03/05	19/04/05	11/05/05	23/06/05	21/07/05	15/08/05	13/09/05	02/11/05	17/11/05	14/12/05
Determinand	Units																		
Water Level																			
Water level to top of casing	m	7.50	7.50	7.50	7.55	7.30	4.75	7.29	7.30	7.30	6.50	4.21	3.68	4.92		7.02		7.38	7.84
Borehole depth to top of casing	m	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85
Casing Top relative to Ordnance Datum	m	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82
Water level relative to Ordnance Datum	m	67.32	67.32	67.32	67.27	67.52	70.07	67.53	67.52	67.52	68.32	70.61	71.14	69.90		67.80		67.44	66.98
Calculated purge volume	litres	32.40	32.40																
Base of well (OD)		65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97
Gas Concentrations																			
Date monitored	-	22/06/04	04/08/04	24/08/04	23/09/04	28/10/2004	17/11/2004	14/12/2004	25/01/2005	09/03/2005	19/04/2005	11/05/2005	23/06/2005	21/07/2005	15/08/2005	13/09/2005	02/11/2005	17/11/2005	14/12/2005
Time of measurement	-		14:25	1705hrs	15:55	14:20	14:10	12:15	16:30	12:50	8.55am	2.35	4.45	4.32	11.40	17:45	14:41	14:25	11:43
Methane	% vol	25.60	73.9	91.2	64.6	64.8	<0.1	64.2	63.9	80.3	74.2	1.1	1.1	1.3		<0.1		47.5	80.2
Carbon Dioxide	% vol	22.7	24	8.2	22	21.8	9.1	22.3	22.5	20.2	20.5	0.1	5.6	0.1		1.1		14.4	11.1
Oxygen	% vol	0.4	<0.1	0.1	2.3	2.5	9	1.8	1.6	0.3	0.1	21.4	10.1	15.1		21.9		4.2	1
Atmospheric Pressure	mbars	1003	1007	996	1004	1010	998	992	993	1018	1011	1010	1010	1015		1004		1008	1022
Gas Pressure	mbars	0.0	11.3	0.1	2.8	2.8	4.2	1.1	1	<0.1	3.1	0.1	<0.1	0.1		3.1	1.2	2.5	3.5
Gas Flow Rate	l/hr	0.3		2.8	2.9	2.8	2.7	0.8	0.9	2.3	6.2	0.1	0.1	0.1		1.1	0.3	<0.1	0.2
Insitu Liquid Determinations																			
pH	pH units	6.7	6.9	7.1		6.9		7.49	6.74	7.37	7.1	6.39	6.52	4.51		8.3		7.3	7.37
Electrical Conductivity	µS/cm	9570	8060	7300		7990			4450	9710	9020	3710	2316	2140		9100		5470	6410
Dissolved Oxygen	mg/l	5.17	8.6	5.1		8.6			19.4	4.3	27.2	18.4	9	12.6		5.26		3.9	4.25
Temperature	℃	15.8	17.1	13.2		15.8		11.9	9.4	10.9	11	10	10	9		15.1		11	12.3
Comment					Tried new Watera tubing, unable to get sample		Ins to sample										could not reach tubing		



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T26																									
Type Of Sample Required	Leachate	09/01/06	08/02/06	10/03/06	11/04/06	04/05/06	26/06/06	13/07/06	07/08/06	08/09/06	02/10/06	07/11/06	12/12/06	10/01/07	12/02/07	12/03/07	18/04/07	15/05/07	11/06/07	17/07/07	06/08/07	10/09/07	12/10/07	19/11/07	14/12/07
Determinand	Units																									
Water Level																										
Water level to top of casing	m	7.27	7.01	7.18	7.25	7.28	7.30	7.36	7.34	7.40	7.36	7.30	7.27	7.26	7.28	7.11	7.12	7.14	7.16	7.23	7.21	7.16	7.10	7.10	7.24
Borehole depth to top of casing	m	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85
Casing Top relative to Ordnance Datum	m	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82
Water level relative to Ordnance Datum	m	67.55	67.81	67.64	67.57	67.54	67.52	67.46	67.48	67.42	67.46	67.52	67.55	67.56	67.54	67.71	67.70	67.68	67.66	67.59	67.61	67.66	67.72	67.72	67.58
Calculated purge volume	litres						9.00	12.00	12.00	12.00	12.00	12.00	12.00	12.72	12.00	12.00	12.00	14.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
Base of well (OD)		65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97
Gas Concentrations																										
Date monitored	-	09/01/2006	08/02/2006	10/03/2006	11/04/2006	04/05/2006	26/06/2006	13/07/2006	07/08/2006	08/09/2006	02/10/2006	07/11/2006	12/12/2006	10/01/2007	12/02/2007	12/03/2007	18/04/2007	15/05/2007	11/06/2007	17/07/2007	06/08/2007	10/09/2007	12/10/2007	19/11/2007	14/12/2007
Time of measurement	-	14:32	15:01	13:25	13:00	15:00	16:35	16:12	14:58	14:55	12:22	13:30	12:00	11:30	14:20	13:40	11:15	12:15	14:15	15:30	15:15	13:20	14:35	10:00	13:00
Methane	% vol	82.8	90.50	69.30	57.1	50.9	72.7	11.1	30.7	48.4	51.6	49.8	45.2	53.2	51.6	53.2	54.9	82.8	86.1	49.3	77.5	59.8	58.2	51.4	27.9
Carbon Dioxide	% vol	12.3	10.70	14.60	13.0	9.8	10.1	4.2	8.9	10.9	11.6	12.1	11.3	12	11.2	13.4	11.2	11.7	9.7	17.1	14.1	16.8	17.2	20.2	12.1
Oxygen	% vol	0.6	0.80	0.00	0.0	2.0	0.6	15.9	1.2	3.3	2.8	1.6	2.3	1.2	1.5	0.6	0.8	0.3	0.4	2.9	0.2	0.2	0.2	0.5	1.9
Atmospheric Pressure	mbars	1002	998	995	986	1008	1007	1014	1010	1015	994	1008	988	991	999	1003	1003	998	998	1009	1001	1007	1005	1011	1022
Gas Pressure	mbars	2.3	1.2	1	1.5	1.1	0.3	<0.1	<0.1	3.8	2.1	1.2	0.7	0.6	0.3	1.1	1.1	1.9	1.6	1.3	0.4	<0.1	<0.1	<0.1	0.5
Gas Flow Rate	l/hr	2.2	0.4	<0.1	0.5	<0.1	0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
Insitu Liquid Determinations																										
pH	pH units	7.33	7.36	6.92	7.03	6.78	7.35	7.24	7.41	6.46	6.51	6.23	6.59	6.49	6.51	6.43	6.51	7.27	7.46	6.6	7.3	7.6	7.31	7.41	7.3
Electrical Conductivity	µS/cm	7450	7220	3170	1568	7450	9720	8520	9125	13370	11220	10050	11700	11900	10200	10200	10082	15810	500	12460	11830	8160	9327	9025	7700
Dissolved Oxygen	mg/l	0.44	3.54	1.74	1.34	8.45	2.09	6.71	5.14	13.5	14.2	2.14	2.47	2.36	2.45	1.46	1.38	1.78	2.04	1.98	1.71	1.85	1.62	1.55	6.35
Temperature	℃	12.3	7.5	2.9	5.6	12.8	14.5	14.3	15.1	5.81	5.36	12.4	12.8	13.2	12.9	12.6	12.6	13.1	12.6	12.9	14.2	13.8	13.4	13	11.9
Comment			Purged liquid was clear	Purged liquid was clear	Purged liquid was clear	Purged liquid was clear	Purged liquid was clear	Purged liquid was clear		Purged liquid was clear	Purged liquid was clear	Purged liquid was clear													



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

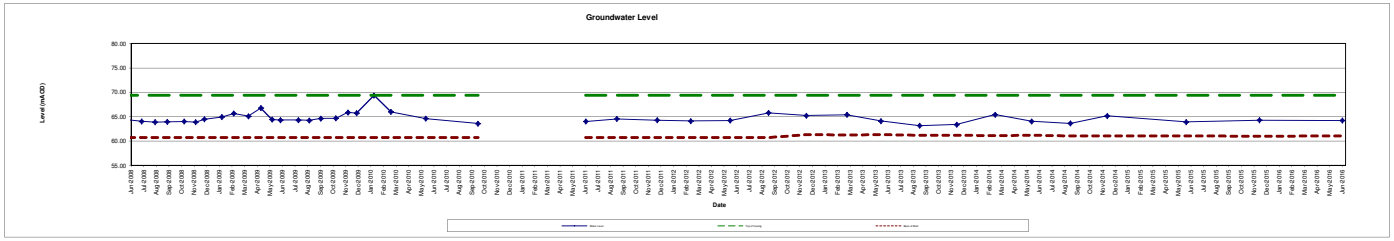
Sampling Location	**T26**																	
Type Of Sample Required	Leachate	10/01/08	05/02/08	06/03/08	22/04/08	19/05/08	10/06/08	16/07/08	19/08/08	22/09/08	28/10/08	25/11/08	16/12/08	26/01/09	24/02/09	23/03/09	18/06/09	23/09/09
Determinand	Units																	
Water Level																		
Water level to top of casing	m	7.20	7.23	7.10	7.06	7.08	7.06	7.09	6.97	7.15	7.13	7.13	6.72	6.94	6.85	6.84	6.91	6.89
Borehole depth to top of casing	m	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85
Casing Top relative to Ordnance Datum	m	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82
Water level relative to Ordnance Datum	m	67.62	67.59	67.72	67.76	67.74	67.76	67.73	67.85	67.67	67.69	67.69	68.10	67.88	67.97	67.98	67.91	67.93
Calculated purge volume	litres	13	13	14	14	14	14	14	15	14	13.76	13.76	17.04	15.28	16.00	16.08	15.52	15.68
Base of well (OD)		65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97
Gas Concentrations																		
Date monitored	-	10/01/2008	05/02/2008	06/03/2008	22/04/2008	19/05/2008	10/06/2008	16/07/2008	19/08/2008	22/09/2008	28/10/2008	25/11/2008	16/12/2008	26/01/2009	24/02/2009	23/03/2009	18/06/2009	23/09/2009
Time of measurement	-	14:45	14:30	12:25				00:00	14:37	13:40	06:00	07:40	10:48	00:00	14:02	15:27	13:54	13:44
Methane	% vol	35.4	30.6	29.2	69.2	89.3	88.4	73.4	83.0	59.4	55.4	84.3	78.4	75.1	72.1	80.7	40.2	68.3
Carbon Dioxide	% vol	19.6	14.7	8..5	13.8	5.9	6.5	7.4	8.0	8.6	12.9	7.3	14.3	20.3	22.4	17.3	9	17.9
Oxygen	% vol	1.5	1.3	0.5	0.3	0.6	0.7	1.1	1.1	1.0	8.6	3.5	4.8	5.2	4.6	5.4	3.9	5.1
Atmospheric Pressure	mbars	973	996	999	1013	1008	1006	0	978	1012	1002	1018	998	1000	1022	1003	999	1004
Gas Pressure	mbars	0.7	<0.1	0.4	0.4	2.5	0.3	0.3	0.2	0.2	0.6	1.61	0.52	1.38	1.55	0.52	0.04	0.78
Gas Flow Rate	l/hr	0.2	<0.1	0.9		0.5	0.5	0.2	0.3	0.4	0.9	0.7	0.9	1.2	1.1	8.4	-0.2	2.6
Insitu Liquid Determinations																		
pH	pH units	7.21	7.16	7.37	7.8	7.7	7.8	7.8		4.29	7.77	8.3		7.04	7.28			
Electrical Conductivity	µS/cm	6950	7260	7020	6920	7690	8100	7610		8224	8373	5340		3598	5790			
Dissolved Oxygen	mg/l	6.82	6.63	2.86				0		0	0	0		2.7	0.99			
Temperature	ºC	11.2	11.6	13.1	11	12	10	10		12.87	12.94	8		9.33	9.73			
Comment																		

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T26**				(Sept mon)	(Dec Mon)	(March Mon)																			
Type Of Sample Required	Leachate	03/02/10	15/03/2010	07/06/10	06/10/10	25/01/11	01/04/11	22/06/11	06/09/11	14/12/11	02/03/12	05/06/12	04/09/12	07/11/12	06/12/12	12/03/13	04/06/2013	02/09/2013	04/12/13	03/03/14	02/06/14	02/09/14	04/12/14	09/06/15	07/12/15	20/06/16
Determinand	Units																									
Water Level																										
Water level to top of casing	m	0.00	6.31	6.46	6.29	6.20	6.14	5.96	6.22	6.16	6.27	5.97	6.21		5.99	6.02	6.13	6.19	6.1	5.98	6.13	6.22	6.1	6.23	6.1	5.95
Borehole depth to top of casing	m	8.85	7.92	8.76	8.72	8.72	8.74		8.78	8.72	8.75	8.80	8.82		8.80	8.82	8.78	8.77	8.78	8.77	8.77	8.75	8.76	8.8	8.73	8.75
Casing Top relative to Ordnance Datum	m	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82		74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82	74.82
Water level relative to Ordnance Datum	m	74.82	68.51	68.36	68.53	68.62	68.68	68.86	68.60	68.66	68.55	68.85	68.61		68.83	68.80	68.69	68.63	68.72	68.84	68.69	68.60	68.72	68.59	68.72	68.87
Calculated purge volume	litres	70.80																								
Base of well (OD)		65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97	65.97		66.02	66.00	66.04	66.05	66.04	66.05	66.05	66.07	66.06	66.02	66.09	66.07
Gas Concentrations																										
Date monitored	-	03/02/2010	15/03/2010	07/06/2010	06/10/2010	25/01/2011	01/04/2011	22/06/2011	06/09/11	14/12/12	02/03/12	05/06/2012	04/09/12	07/11/12	06/12/12	12/03/13	04/06/2013	02/09/2013	04/12/13	03/03/14	02/06/14	02/09/14	04/12/14	09/06/15	07/12/15	20/06/16
Time of measurement	-	04:19	15:25	13:51	14:43		10:15	14:13	14:38	10:32	10:23	15:04	11:52	13:30	01:17	10:40	15:39	12:12	10:07	10:22	15:48	15:08	13:56	14:21	12:58	12:05
Methane	% vol	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	69	1.1	0.1	<0.1	19.7	82.3	38.6	26.2	1.5	0.1	37.7	25.6	84.7	61.3	24.7	57.8	0.2	70.8	0.1
Carbon Dioxide	% vol	12.9	4.6	4.1	0.6	4.4	2.1	13.6	6.2	0.1	0.2	8.2	15.4	10.6	12.4	10.4	7.3	7.9	3.7	11.1	14.4	2.7	4.8	2.6	13.7	6
Oxygen	% vol	10.5	13.4	17.1	19.7	17.9	18.5	1.6	7.1	21.5	21.0	0.2	0.1	5.1	1.6	11.1	10.2	3	13.5	0.6	0.3	11.1	5.1	16.1	1.5	14.8
Atmospheric Pressure	mbars	1008	1009	1000	989	1008	1005	998	976	968	1019	1003	1009	1002	989	1005	1021	1007	1012	973	1006	1014	1012	1026	1013	1005
Gas Pressure	mbars	0.02	0.02	-0.1	+/-0.01	-0.3	0.13	0.00	0.01	-0.25	0.13	-0.04	-0.02	0.35	-0.12	-0.36	-0.28	-0.11	-0.22	-0.29	-0.19	-0.1	0.13	-0.09	-0.04	<0.01
Gas Flow Rate	l/hr	0	+/-0.1	+/-0.1	+/-0.1	-0.2	0.1	-0.3	-0.5	-0.5	n/r	1.2	0.3	-0.1	-0.2	<0.1	<0.1	0.4	<0.1	0.1	0.1	0.2	0.8	0.1	<0.1	<0.1
Insitu Liquid Determinations																										
pH	pH units								7.8	7.7	7.7	7.8	7.5		7.4		7.7	7.6	7.7	7.4	7.5	7.4		7.8		7.3
Electrical Conductivity	µS/cm								7340	5190	5730	6920	6100		4240		6950	5900	5480	4610	6180	3890		5950		5140
Dissolved Oxygen	mg/l								4.6	5.8	3.5	2.0	1.6		2.4		1.6	1.0	5.2	7.4				5.4		2.9
Temperature	ºC			11	13.1				12.0	10.1	10.0	10.5	11.4		7.9	9.2	12.4	16.8	9.2	9.1	11.9	15.2		12.5		11.4
Comment									Tap broken and stuck in open position	Tap stuck in open position	No bung or gas tap present															

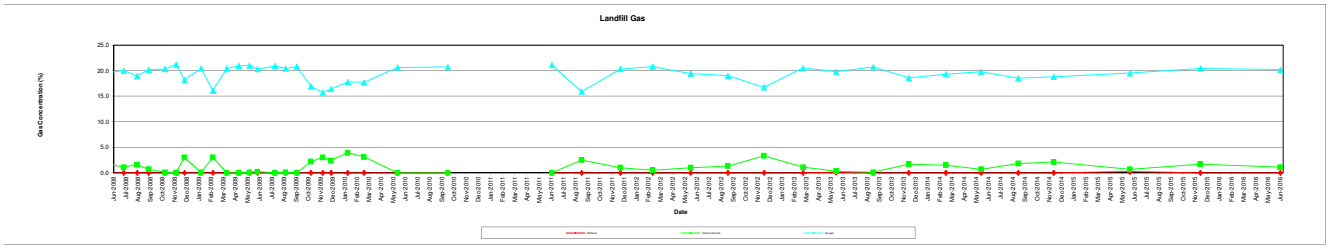
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T27																												
Type Of Sample Required	Groundwater	18/07/07	07/08/07	10/09/07	10/10/07	16/11/07	05/12/07	09/01/08	04/02/08	05/03/08	22/04/08	19/05/08	09/06/08	16/07/08	18/08/08	16/09/08	27/10/08	24/11/08	15/12/08	26/01/09	24/02/09	31/03/09	30/04/09	27/05/09	16/06/09	30/07/09	25/08/09	22/09/09
Determinand	Units																												
Water Level																													
Water level to top of casing	m	4.72	4.38	4.70	4.70	4.68	5.60	5.47	5.61	4.40	4.80	4.76	4.99	5.33	5.48	5.44	5.34	5.47	4.91	4.43	3.72	4.27	2.59	4.95	5.06	5.07	5.12	4.72	
Borehole depth to top of casing	m	8.65	8.65	8.65	8.65	8.65	8.65	8.65	8.65	8.65	8.65	8.65	8.65	8.65	8.65	8.65	8.65	8.65	8.65	8.65	8.65	8.65	8.65	8.65	8.65	8.65	8.65	8.65	
Casing Top relative to Ordnance Datum	m	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	
Water level relative to Ordnance Datum	m	64.67	65.01	64.69	64.69	64.71	63.79	63.92	63.78	64.99	64.59	64.63	64.40	64.06	63.91	63.95	64.05	63.92	64.48	64.96	65.67	65.12	66.80	64.44	64.33	64.32	64.27	64.67	
Calculated purge volume	litres	28.00	30.00	28.00	N/A	N/A	20.00	25	24	34	31	31	29	26.56	25.36	25.68	26.48	25.44	29.92	33.76	39.44	35.04	48.48	29.60	28.72	28.64	28.24	31.44	
Base of well (OD)		60.74	60.74	60.74	60.74	60.74	60.74	60.74	60.74	60.74	60.74	60.74	60.74	60.74	60.74	60.74	60.74	60.74	60.74	60.74	60.74	60.74	60.74	60.74	60.74	60.74	60.74	60.74	
Gas Concentrations																													
Date monitored	-	18/07/2007	07/08/2007	10/09/2007	10/10/2007	16/11/2007	05/12/2007	09/01/2008	04/02/2008	05/03/2008	22/04/2008	19/05/2008	09/06/2008	16/07/2008	18/08/2008	16/09/2008	27/10/2008	24/11/2008	15/12/2008	26/01/2009	24/02/2009	31/03/2009	30/04/2009	27/05/2009	16/06/2009	30/07/2009	25/08/2009	22/09/2009	
Time of measurement	-	14:30	14:30	15:25	11:15	14:45	12:00	12:30	12:30	11:00				00:00	13:46	14:55	04:48	14:09	10:19	07:55	12:53	13:10	13:50	14:45	14:37	13:20	11:55	14:39	
Methane	% vol	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Carbon Dioxide	% vol	0.1	1.0	3.5	3.6	4.1	2.5	3.9	3.2	0.6	1.3	0	1.7	1.1	1.6	0.7	0.1	0	3	0.1	3	0	0	0.1	0.2	0	0.1	0	
Oxygen	% vol	21.0	19.0	16.6	16.4	17.3	17.3	16.3	16.8	20.6	19.8	21	19.6	20	18.9	20.2	20.3	21.2	18.2	20.4	16.1	20.4	20.9	21	20.3	20.9	20.4	20.8	
Atmospheric Pressure	mbars	1009	1001	1009	1015	1015	976	982	1002	1009	1013	1009	1004	0	982	1009	996	1005	1010	999	1023	1021	1007	1000	1017	998	996	997	
Gas Pressure	mbars	0.4	<0.1	<0.1	<0.1	<0.1	0.6	0.3	<0.1	0.4	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.32	0.87	-0.03	0.04	0	0	0.49	0	-0.02	0.01	0.01	
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	1.8	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Insitu Liquid Determinations																													
pH	pH units	4.06	5.26	5.65			5.48	5.82	5.93	5.43	5.7	5.4	5.1	4.1		5.77	5.7	4.7		7.91	6.42		6	4.5		5.9	4.1		
Electrical Conductivity	µS/cm	462	453	313			382	462	405	407	186	270	483	547		574	260	540		222	201		233	530		489	581		
Dissolved Oxygen	mg/l	1.2	1.52	6.48			5.92	5.12	5.8	6.35				0		0	4.84	0		7.67	7.94								
Temperature	℃	9.6	9.9	10.2			9.9	9.2	9.5	11.7	7	10	8	8		10.01	9.51	6		8.13	8.08		6	7		8	8		
Comment																													



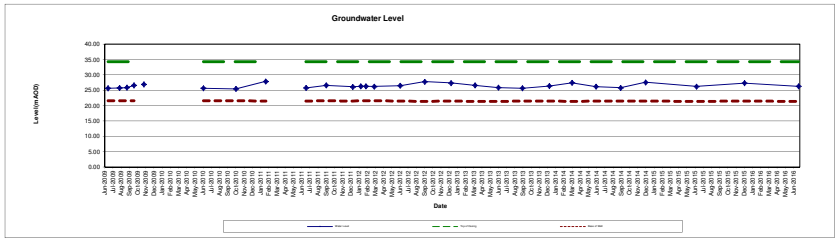
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T27							(Sept mon)	(Dec Mon)	(March Mon)																		
Type Of Sample Required	Groundwater	28/10/09	26/11/09	17/12/09	28/01/10	10/03/2010	02/06/10	06/10/2010	25/01/11	01/04/11	23/06/11	06/09/11	12/12/11	02/03/12	05/06/12	06/09/12	06/12/12	14/03/13	04/06/2013	05/09/2013	03/12/13	06/03/14	02/06/14	03/09/14	01/12/14	10/06/15	04/12/15	21/06/16
Determinand	Units																											
Water Level																												
Water level to top of casing	m	4.71	3.49	3.65	0.00	3.38	4.78	5.77			5.35	4.83	5.11	5.25	5.17	3.57	4.14	3.97	5.26	6.19	5.99	3.94	5.31	5.76	4.2	5.45	5.1	5.16
Borehole depth to top of casing	m	8.65	8.65	8.65	8.65	8.12	8.15	8.11				8.14	8.09	8.12	8.09	8.10	8.09	8.11	8.08	8.22	8.2	8.24	8.2	8.31	8.33	8.34	8.39	8.33
Casing Top relative to Ordnance Datum	m	69.39	69.39	69.39	69.39	69.39	69.39	69.39			69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39	69.39
Water level relative to Ordnance Datum	m	64.68	65.90	65.74	69.39	66.01	64.61	63.62			64.04	64.56	64.28	64.14	64.22	65.82	65.25	65.42	64.13	63.20	63.40	65.45	64.08	63.63	65.19	63.94	64.29	64.23
Calculated purge volume	litres	31.52	41.28	40.00	69.20																							
Base of well (OD)		60.74	60.74	60.74	60.74	60.74	60.74	60.74			60.74	60.74	60.74	60.74	60.74	60.74	61.30	61.28	61.31	61.17	61.19	61.15	61.19	61.08	61.06	61.05	61.00	61.06
Gas Concentrations																												
Date monitored	-	28/10/2009	26/11/2009	17/12/2009	28/01/2010	10/03/2010	02/06/2010	06/10/2010			23/06/2011	06/09/11	12/12/12	02/03/12	05/06/2012	06/09/12	06/12/12	14/03/13	04/06/2013	05/09/2013	03/12/13	06/03/14	02/06/14	03/09/14	01/12/14	10/06/15	04/12/15	21/06/16
Time of measurement	-	11:07	10:21	10:50	13:55	12:00	15:00	15:06			9:10	12:06	11:41	14:27	12:19	15:33	14:32	13:01	14:34	14:15	14:32	13:54	14:57	12:29	13:09	11:51	12:31	09:46
Methane	% vol	0	0	0	0	<0.1	<0.1	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	2.2	3	2.4	3.9	3.1	<0.1	<0.1			<0.1	2.5	1.0	0.5	1.0	1.3	3.3	1.1	0.3	0.1	1.7	1.5	0.7	1.8	2.1	0.7	1.7	1.1
Oxygen	% vol	16.9	15.7	16.4	17.8	17.7	20.6	20.7			21.1	15.9	20.3	20.8	19.4	19.0	16.7	20.5	19.8	20.7	18.6	19.3	19.8	18.5	18.8	19.5	20.4	20.2
Atmospheric Pressure	mbars	1005	970	1014	1012	1023	1009	988			1002	978	986	1019	1005	1005	990	1001	1022	1004	1011	1005	1007	1015	1003	1022	1002	1005
Gas Pressure	mbars	-0.01	-0.03	0.02	0	0.01	-0.15	-0.02			0.00	0.01	<0.1	0.10	<0.01	<0.01	<0.05	-0.02	-0.26	0.14	-0.22	-0.13	-0.07	-0.07	-0.07	<0.01	-0.03	<0.01
Gas Flow Rate	l/hr	<0.1	-0.4	-0.05	0	+/-0.1	+/-0.1	+/-0.1			<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	0.2	0.2	0.3	<0.1	0.1	<0.1
Insitu Liquid Determinations																												
pH	pH units	6.2	5.7	6.1									6.1		4.7		6.3		5.2		5.5		5.3		5.3	5.7	5.3	5.3
Electrical Conductivity	µS/cm	172	209	205									730		645		280		495		550		425		295	580	435	495
Dissolved Oxygen	mg/l												8.4		7.9		9.6		4.6		6.8		4.8		8	4.3	7.4	7.6
Temperature	℃	8	7	7			9.6						8.7		8.5		7.7		10.2		8.5		10.5		9.5	12.8	9.1	9.5
Comment									Cover seized / unable to monitor	Cover seized / unable to monitor																		



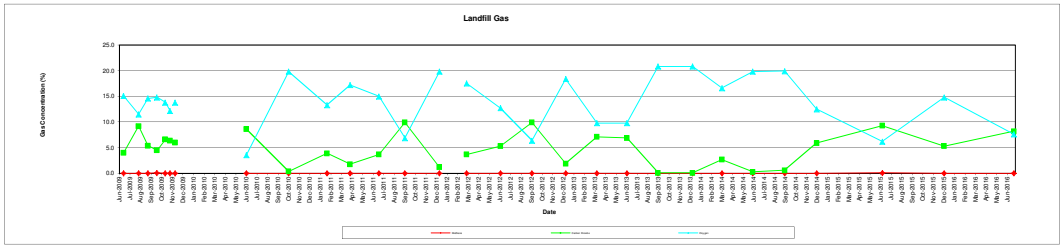
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T28													(Sept mon)	(Dec Mon)
Type Of Sample Required	Groundwater	18/06/09	31/07/09	27/08/09	22/09/09	16/10/09	29/10/09	26/11/09	13/11/09	08/12/09	17/12/09	07/06/10	06/10/10	25/01/11
Determinand	Units													
Water Level														
Water level to top of casing	m	8.66	8.56	8.48	7.73		7.38					8.67	8.87	6.42
Borehole depth to top of casing	m						12.79					12.79	12.75	12.86
Casing Top relative to Ordnance Datum	m	34.33	34.33	34.33	34.33		34.33					34.33	34.33	34.33
Water level relative to Ordnance Datum	m	25.67	25.77	25.85	26.60		26.95					25.66	25.46	27.91
Calculated purge volume	litres													
Base of well (OD)		21.54	21.54	21.54	21.54		21.54					21.54	21.54	21.47
Gas Concentrations														
Date monitored	-	18/06/2009	31/07/2009	27/08/2009	22/09/2009	16/10/2009	29/10/2009		13/11/2009			07/06/2010	06/10/2010	25/01/2011
Time of measurement	-	15:25		11:28	11:45	15:56	10:36		15:29			17:51	10:59	
Methane	% vol	0.0	0.0	0.0	0.1	0.0	0.0		0.0			<0.1	<0.1	<0.1
Carbon Dioxide	% vol	4.0	9.2	5.4	4.5	6.6	6.4		6.0			8.6	0.4	3.9
Oxygen	% vol	15.1	11.5	14.6	14.8	13.8	12.2		13.8			3.60	19.80	13.3
Atmospheric Pressure	mbars	1001	1016	1004	1002	1032	1021		994			1004.00	997	1007
Gas Pressure	mbars	0.05	0.01	-0.02	0	0.04	0		0.03			0.03	0.19	0.07
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1			+/-0.1	+/-0.1	+/-0.1
Insitu Liquid Determinations														
pH	pH units		8.2	6.5			7.4							
Electrical Conductivity	µS/cm		1450	1540			824							
Dissolved Oxygen	mg/l													
Temperature	℃		9	8			9							
Comment				Ammonia - 20.1 Chloride - 262 COD - 118				Inaccessible		No access available	No access available			



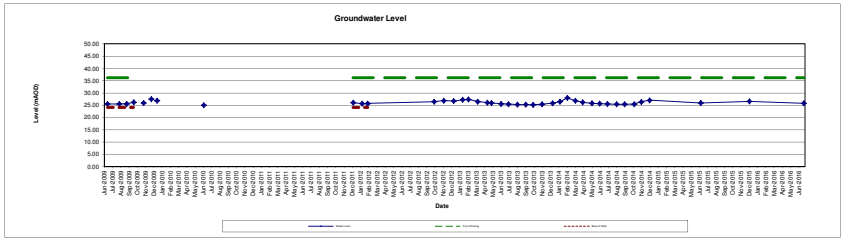
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T28**	(March Mon)																					
Type Of Sample Required	Groundwater	01/04/11	23/06/11	06/09/11	14/12/11	12/01/12	01/02/12	02/03/12	07/06/12	06/09/12	12/12/12	12/03/13	06/06/13	04/09/13	12/12/13	06/03/14	03/06/14	03/09/14	04/12/14	11/06/15	07/12/15	24/06/16
Determinand	Units																					
Water Level																						
Water level to top of casing	m		8.53	7.75	8.18	8.01	8.05	8.10	7.83	6.53	6.95	7.70	8.47	8.67	7.92	6.87	8.16	8.52	6.72	8.08	7	8.03
Borehole depth to top of casing	m		12.84	12.84	12.90	12.88	12.86	13.14	12.87	12.92	12.88	12.92	12.94	12.84	12.89	12.96	12.88	12.87	12.86	12.94	12.83	12.95
Casing Top relative to Ordnance Datum	m		34.33	34.33	34.33	34.33	34.33	34.33	34.33	34.33	34.33	34.33	34.33	34.33	34.33	34.33	34.33	34.33	34.33	34.33	34.33	34.33
Water level relative to Ordnance Datum	m		25.80	26.58	26.15	26.32	26.28	26.23	26.50	27.80	27.38	26.63	25.86	25.66	26.41	27.46	26.17	25.81	27.61	26.25	27.33	26.30
Calculated purge volume	litres																					
Base of well (OD)			21.49	21.54	21.43	21.54	21.54	21.54	21.46	21.41	21.45	21.41	21.39	21.49	21.44	21.37	21.45	21.46	21.47	21.39	21.50	21.38
Gas Concentrations																						
Date monitored	-	01/04/2011	23/06/2011	06/09/11	14/12/12			02/03/12	07/06/2012	06/09/12	12/12/12	12/03/13	06/06/2013	04/09/2013	12/12/13	06/03/14	03/06/14	03/09/14	04/12/14	11/06/15	07/12/15	24/06/16
Time of measurement	-	16:25	11:03	09:36	09:25			11:36	10:11	12:22	13:56	14:32	10:27	14:30	13:43	14:56	15:21	09:40	14:26	10:56	13:49	15:24
Methane	% vol	<0.1	<0.1	<0.1	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	1.8	3.7	9.9	1.2			3.7	5.3	9.9	1.9	7.1	6.9	0.1	0.1	2.7	0.3	0.6	5.9	9.3	5.3	8.2
Oxygen	% vol	17.2	15.0	6.9	19.8			17.5	12.7	6.4	18.4	9.8	9.8	20.8	20.8	16.6	19.8	19.9	12.5	6.2	14.8	7.6
Atmospheric Pressure	mbars	999	1009	984	972			1025	998	1012	1010	1010	1020	1012	1010	1011	1004	1022	1015	1019	1015	1011
Gas Pressure	mbars	-0.1	0.00	0.01	-0.20			0.12	0.26	<0.01	-0.14	0.1	0.05	-0.02	-0.1	-0.09	0.22	-0.02	0.15	0.09	-0.07	0.07
Gas Flow Rate	l/hr	-0.1	<0.1	<0.1	<0.1			-0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	-0.2	<0.1	0.1	<0.1
Insitu Liquid Determinations																						
pH	pH units				6.7																	
Electrical Conductivity	µS/cm				1410																	
Dissolved Oxygen	mg/l				5.9																	
Temperature	℃				8.5																	
Comment																						



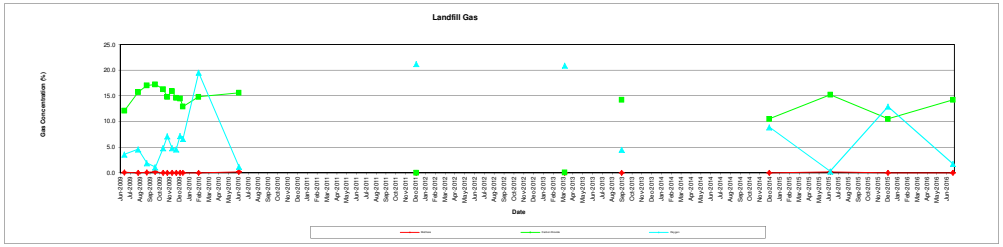
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T29**														(Dec Mon)
Type Of Sample Required	Groundwater	18/06/09	31/07/09	27/08/09	22/09/09	16/10/09	29/10/09	13/11/09	26/11/09	08/12/09	17/12/09	03/02/10	08/06/10	25/01/11
Determinand	Units														
Water Level															
Water level to top of casing	m	10.60	10.58	10.55	9.93		10.17		8.59		9.31		11.04		
Borehole depth to top of casing	m												12.05		
Casing Top relative to Ordnance Datum	m	36.17	36.17	36.17	36.17		36.17		36.17		36.17		36.17		
Water level relative to Ordnance Datum	m	25.57	25.59	25.62	26.24		26.00		27.58		26.86		25.13		
Calculated purge volume	litres														
Base of well (OD)		24.12	24.12	24.12	24.12		24.12		24.12		24.12		24.12		
Gas Concentrations															
Date monitored	-	18/06/2009	31/07/2009	27/08/2009	22/09/2009	16/10/2009	29/10/2009	13/11/2009	26/11/2009	08/12/2009	17/12/2009	03/02/2010	08/06/2010		
Time of measurement	-	15:32		11:40	11:29	15:59	10:48	15:32	12:42	15:18	13:13	09:07	08:31		
Methane	% vol	0.1	0.0	0.1	0.2	0.0	0.0	0	0.0	0.0	0.0	0	0.2		
Carbon Dioxide	% vol	12.1	15.7	17.0	17.2	16.3	14.8	15.9	14.6	14.5	12.9	14.8	15.6		
Oxygen	% vol	3.6	4.6	1.9	1.1	4.8	7.1	4.8	4.6	7.2	6.6	19.5	1.2		
Atmospheric Pressure	mbars	1001	1016	1004	1002	1032	1020	995	974	983	1015	1015	1002		
Gas Pressure	mbars	0.05	0.06	0.07	0.07	-0.02	0	0.05	0.01	0.03	0.06	0.01	0.07		
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0	+/-0.1		
Insitu Liquid Determinations															
pH	pH units		8.1	6.6			7.3		6.8						
Electrical Conductivity	µS/cm		1620	1690			1460		1630						
Dissolved Oxygen	mg/l														
Temperature	℃		9	8			8		8				10.1		
Comment				Ammonia - 33.4 Chloride - 259 COD - 255									Sampled in error	Padlock seized	



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T29	(March Mon)																												
Type Of Sample Required	Groundwater	01/04/11	09/12/11	12/01/12	01/02/12	03/10/12	07/11/12	13/12/12	15/01/13	06/02/13	12/03/13	16/04/13	01/05/13	06/06/13	03/07/13	05/08/13	04/09/2013	02/10/13	04/11/13	12/12/13	08/01/14	04/02/14	06/03/14	01/04/14	06/05/14	03/06/14	02/07/14	05/08/14		
Determinand	Units																													
Water Level																														
Water level to top of casing	m		10.05	10.44	10.40	9.68	9.26	9.43	8.88	8.75	9.65	10.08	10.24	10.54	10.69	10.85	10.89	10.92	10.75	10.26	9.67	8.13	9.28	9.94	10.32	10.47	10.62	10.73		
Borehole depth to top of casing	m		12.06	12.06	12.12	12.10	12.10	12.03	12.07	12.06	12.07	12.08	12.08	12.10	12.07	12.09	12.08	12.08	12.07	12.03	12.07	12.09	12.1	12.11	12.09	12.03	12.09	12.14		
Casing Top relative to Ordnance Datum	m		36.17	36.17	36.17	36.17	36.17	36.17	36.17	36.17	36.17	36.17	36.17	36.17	36.17	36.17	36.17	36.17	36.17	36.17	36.17	36.17	36.17	36.17	36.17	36.17	36.17	36.17		
Water level relative to Ordnance Datum	m		26.12	25.73	25.77	26.49	26.91	26.74	27.29	27.42	26.52	26.09	25.93	25.63	25.48	25.32	25.28	25.25	25.42	25.91	26.50	28.04	26.89	26.23	25.85	25.70	25.55	25.44		
Calculated purge volume	litres																													
Base of well (OD)			24.12	24.12	24.12	24.12	24.12	24.14	24.10	24.11	24.10	24.09	24.09	24.07	24.10	24.08	24.09	24.09	24.10	24.14	24.10	24.08	24.07	24.06	24.08	24.14	24.08	24.03		
Gas Concentrations																														
Date monitored	-		09/12/12								12/03/13						04/09/2013													
Time of measurement	-		09:15								14:23						14:25													
Methane	% vol		<0.1								<0.1						<0.1													
Carbon Dioxide	% vol		<0.1								0.1						14.2													
Oxygen	% vol		21.2								20.9						4.5													
Atmospheric Pressure	mbars		995								1009						1011													
Gas Pressure	mbars		-0.17								-0.07						-0.04													
Gas Flow Rate	l/hr		-0.3								0.2						<0.1													
Insitu Liquid Determinations																														
pH	pH units		6.7																											
Electrical Conductivity	µS/cm		1450																											
Dissolved Oxygen	mg/l		8.2																											
Temperature	℃		7.5																											
Comment		Padlock seized																												

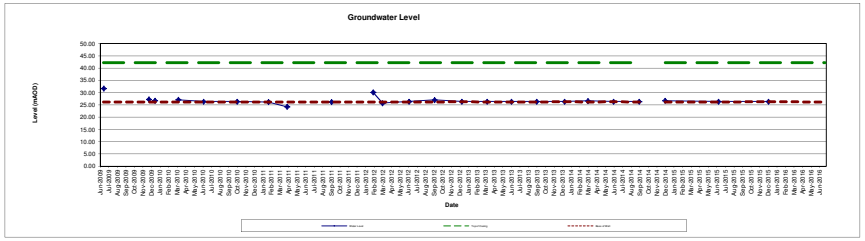


Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T29**							
Type Of Sample Required	Groundwater	03/09/14	08/10/14	03/11/14	04/12/14	11/06/15	07/12/15	24/06/16
Determinand	Units							
Water Level								
Water level to top of casing	m	10.73	10.66	9.78	9.11	10.2	9.57	10.38
Borehole depth to top of casing	m	12.09	12.09	12.07	12.08	12.08	12.09	12.07
Casing Top relative to Ordnance Datum	m	36.17	36.17	36.17	36.17	36.17	36.17	36.17
Water level relative to Ordnance Datum	m	25.44	25.51	26.39	27.06	25.97	26.60	25.79
Calculated purge volume	litres							
Base of well (OD)		24.08	24.08	24.10	24.09	24.09	24.08	24.10
Gas Concentrations								
Date monitored	-				04/12/14	11/06/15	07/12/15	24/06/16
Time of measurement	-				14:20	10:44	13:55	15:16
Methane	% vol				<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol				10.5	15.2	10.5	14.2
Oxygen	% vol				8.9	0.3	12.9	1.8
Atmospheric Pressure	mbars				1014	1020	1015	1010
Gas Pressure	mbars				0.14	0.12	-0.07	0.03
Gas Flow Rate	l/hr				<0.1	<0.1	0.5	0.4
Insitu Liquid Determinations								
pH	pH units							
Electrical Conductivity	µS/cm							
Dissolved Oxygen	mg/l							
Temperature	℃							
Comment								

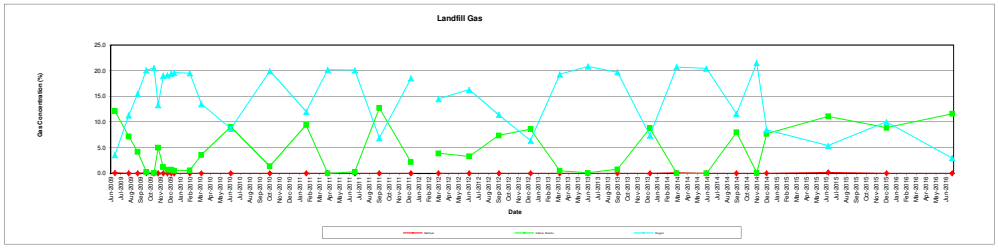
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T30**															(Sept mon)	(Dec Mon)
Type Of Sample Required	Groundwater	18/06/09	31/07/09	27/08/09	22/09/09	16/10/09	29/10/09	13/11/09	26/11/09	08/12/09	17/12/09	03/02/10	10/03/2010	08/06/10	06/10/10	25/01/11
Determinand	Units																
Water Level																	
Water level to top of casing	m	10.60	DRY	DRY	DRY		DRY		14.94		15.56		15.11	15.85	15.83	15.50
Borehole depth to top of casing	m												16.01	16.02	16.02	16.02
Casing Top relative to Ordnance Datum	m	42.26	42.26	42.26	42.26	42.26	42.26	42.26	42.26	42.26	42.26	42.26	42.26	42.26	42.26	42.26
Water level relative to Ordnance Datum	m	31.66							27.32		26.70		27.15	26.41	26.43	26.24
Calculated purge volume	litres															
Base of well (OD)		26.24	26.24	26.24	26.24	26.24	26.24	26.24	26.24	26.24	26.24	26.24	26.24	26.24	26.24	26.24
Gas Concentrations																	
Date monitored	-	18/06/2009	31/07/2009	27/08/2009	22/09/2009	16/10/2009	29/10/2009	13/11/2009	26/11/2009	08/12/2009	17/12/2009	03/02/2010	10/03/2010	08/06/2010	06/10/2010	25/01/2011
Time of measurement	-	15:50		12:01	10:58	16:02	11:21	15:35	12:00	15:21	13:21	10:48	14:00	09:11	11:45	
Methane	% vol	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	12.1	7.2	4.2	0.3	0.1	5.0	1.2	0.7	0.7	0.5	0.6	3.6	9	1.4	9.4
Oxygen	% vol	3.6	11.3	15.5	20.1	20.5	13.3	19.0	19.1	19.4	19.6	19.5	13.5	8.7	19.9	12.0
Atmospheric Pressure	mbars	1001	1013	1002	1002	1032	1017	993	973	982	1015	1014	1025	1001	997	1007
Gas Pressure	mbars	0.05	0.04	0.02	-0.06	0	0.09	0.14	0.06	0.05	0.06	0.04	0.06	0.05	0.09	0.04
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.02	0	+/-0.1	+/-0.1	+/-0.1	+/-0.1
Insitu Liquid Determinations																
pH	pH units								6.3							
Electrical Conductivity	µS/cm								554							
Dissolved Oxygen	mg/l															
Temperature	℃								8							
Comment																



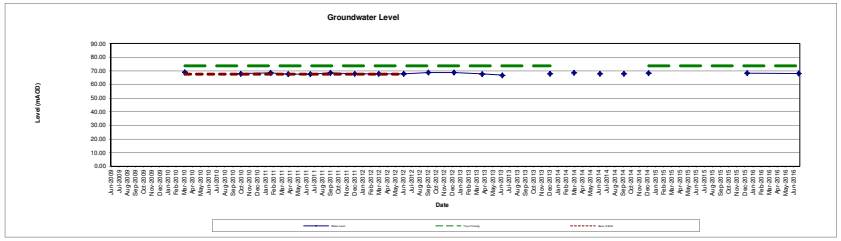
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

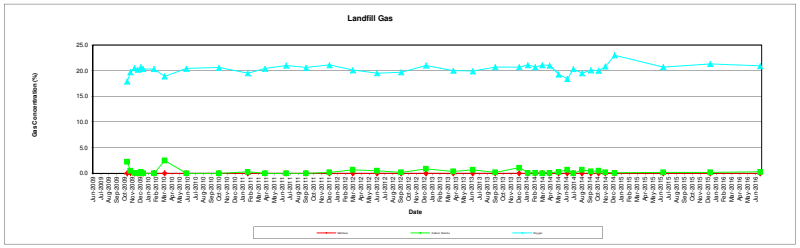
Sampling Location	**T30**	(March Mon)																					
Type Of Sample Required	Groundwater	01/04/11	23/06/11	06/09/11	12/12/11	12/01/12	01/02/12	05/03/12	07/06/12	06/09/12	12/12/12	12/03/13	06/06/2013	04/09/2013	12/12/13	04/03/14	03/06/14	03/09/14	04/11/14	04/12/14	11/06/15	07/12/15	24/06/16
Determinand	Units																						
Water Level																							
Water level to top of casing	m	15.30	DRY	15.84	Dry	Dry	15.86	15.84	15.85	15.18	15.83	15.85	15.85	15.85	15.83	15.6	15.83	15.85		15.55	15.85	15.84	Dry
Borehole depth to top of casing	m	18.03	15.70	16.06	16.23	16.02	12.12	16.49	16.08	16.42	15.97	16.03	16.04	16.02	16	16.02	16	16.04		16.03	16.02	15.99	16.1
Casing Top relative to Ordnance Datum	m	42.26	42.26	42.26	42.26	42.26	42.26	42.26	42.26	42.26	42.26	42.26	42.26	42.26	42.26	42.26	42.26	42.26		42.26	42.26	42.26	42.26
Water level relative to Ordnance Datum	m	24.23		26.20			30.14	25.77	26.41	27.08	26.43	26.41	26.41	26.41	26.43	26.66	26.43	26.41		26.71	26.41	26.42	
Calculated purge volume	litres																						
Base of well (OD)		26.24	26.24	26.24	26.24	26.24	26.24	26.24	26.24	26.24	26.29	26.23	26.22	26.24	26.26	26.24	26.26	26.22		26.23	26.24	26.27	26.16
Gas Concentrations																							
Date monitored	-	01/04/2011	23/06/2011	06/09/11	12/12/12			05/03/12	07/06/2012	06/09/12	12/12/12	12/03/13	06/06/2013	04/09/2013	12/12/13	04/03/14	03/06/14	03/09/14	04/11/14	04/12/14	11/06/15	07/12/15	24/06/16
Time of measurement	-	16:15	10:45	15:22	14:01			10:44	09:57	12:06	14:11	14:01	13:05	14:12	13:34	15:46	15:30	15:24	12:45	14:14	14:34	14:10	15:09
Methane	% vol	<0.1	<0.1	<0.1	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	0.3	12.7	2.2			3.9	3.3	7.4	8.6	0.5	0.1	0.8	8.8	<0.1	<0.1	8	0.1	7.7	11.1	8.9	11.6
Oxygen	% vol	20.2	20.1	6.9	18.5			14.5	16.3	11.4	6.4	19.3	20.8	19.7	7.4	20.7	20.4	11.6	21.5	8.5	5.4	10	3
Atmospheric Pressure	mbars	999	1008	980	989			1020	996	1012	1009	1008	1021	1011	1010	993	1004	1019	986	1014	1014	1014	1009
Gas Pressure	mbars	0.1	0.00	0.01	<0.1			-0.41	-0.17	<0.01	-0.12	0.02	0.09	<0.01	-0.11	-0.16	-0.12	-0.25	0.03	0.12	-0.13	-0.07	0.07
Gas Flow Rate	l/hr	0	<0.1	<0.1	-0.1			0.1	0.2	<0.1	0.1	0.1	0.2	-0.1	<0.1	<0.1	0.2	<0.1	0.2	<0.1	0.1	0.2	0.4
Insitu Liquid Determinations																							
pH	pH units																						
Electrical Conductivity	µS/cm																						
Dissolved Oxygen	mg/l																						
Temperature	ºC																						
Comment							Almost dry		Soft sediment at base of borehole														



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T31											(Sept mon)	(Dec Mon)	(March Mon)														
Type Of Sample Required	Groundwater	16/10/09	28/10/09	13/11/09	26/11/09	08/12/09	17/12/09	28/01/10	10/03/2010	02/06/10	06/10/10	25/01/11	01/04/11	22/06/11	06/09/11	06/12/11	05/03/12	07/06/12	07/09/12	12/12/12	27/03/13	11/06/2013	05/09/2013	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14
Determinand	Units																											
Water Level																												
Water level to top of casing	m								4.68	Dry	5.69	4.76	4.77	6.02	5.02	5.85	5.86	5.77	4.80	4.80	5.89	6.83	Dry	5.86			4.99	
Borehole depth to top of casing	m								6.08	6.08	6.08	5.10	6.09		6.10	6.09	6.10	6.10	6.10	6.10	6.10	6.07	6.09	6.06			6.09	
Casing Top relative to Ordnance Datum	m								73.63	73.63	73.63	73.63	73.63	73.63	73.63	73.63	73.63	73.63	73.63	73.63	73.63	73.63	73.63	73.63			73.63	
Water level relative to Ordnance Datum	m								68.95		67.94	68.53	67.54	67.61	68.61	67.78	67.77	67.86	68.83	68.83	67.74	66.80		67.77			68.64	
Calculated purge volume	litres																											
Base of well (OD)									67.55	67.55	67.55	67.55	67.55	67.55	67.55	67.55	67.55	67.55		67.53	67.53	67.56	67.54	67.57			67.54	
Gas Concentrations																												
Date monitored	-	16/10/2009	28/10/2009	13/11/2009	26/11/2009	08/12/2009	17/12/2009	28/01/2010	10/03/2010	02/06/2010	06/10/2010	25/01/2011	01/04/2011	22/06/2011	06/09/11	06/12/12	05/03/12	07/06/2012	07/09/12	12/12/12	27/03/13	11/06/2013	05/09/2013	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14
Time of measurement	-	15:00	12:06	14:05	14:09	13:49	11:26	13:12	10:50	14:05	16:00		17:36	15:35	12:39	12:16	13:57	12:05	11:05	12:02	14:55	10:11	11:59	15:03	11:18	10:15	10:26	10:47
Methane	% vol	0.0	0.1	0.0	0.0	0.0	0.0	0.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1
Carbon Dioxide	% vol	2.3	0.5	0.1	0.0	0.3	0.0	0.0	2.5	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	0.2	0.7	0.5	0.2	0.9	0.4	0.7	0.2	1.1	0.1	0.1	<0.1	0.1
Oxygen	% vol	17.9	19.7	20.5	20.2	20.7	20.3	20.3	18.9	20.4	20.6	19.5	20.4	21.0	20.6	21.1	20.1	19.5	19.7	21.0	20	19.9	20.7	20.7	21.1	20.7	21.1	21
Atmospheric Pressure	mbars	1032	1003	991	970	982	1013	1010	1024	1009	987	1007	995	999	977	992	1018	992	1009	1008	1015	1005	1005	1020	989	973	1007	999
Gas Pressure	mbars	-0.02	0.02	0.02	0.06	0.02	0.03	0.02	+/-0.01	0.01	-0.02	0.05	0.02	0.00	0.01	<0.1	-0.10	-0.08	-0.17	0.03	0.09	0.03	0.04	0.08	0.12	0.26	-0.09	-0.14
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	-0.01	0	+/-0.1	+/-0.1	+/-0.1	0.2	0	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	0.1	<0.1	0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1
Insitu Liquid Determinations																												
pH	pH units																											
Electrical Conductivity	µS/cm																											
Dissolved Oxygen	mg/l																											
Temperature	ºC																											
Comment																												



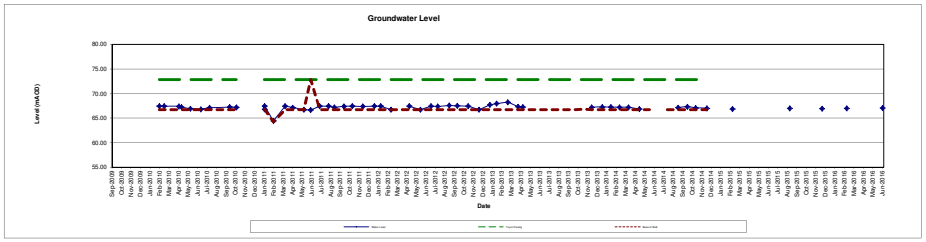


Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T31**											
Type Of Sample Required	Groundwater	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	15/06/15	14/12/15	24/06/16
Determinand	Units											
Water Level												
Water level to top of casing	m		5.84			5.79			5.33	Dry	5.34	5.52
Borehole depth to top of casing	m		6.1			6.1			6.1	6.63	6.09	6.09
Casing Top relative to Ordnance Datum	m		73.63			73.63			73.63	73.63	73.63	73.63
Water level relative to Ordnance Datum	m		67.79			67.84			68.30		68.29	68.11
Calculated purge volume	litres											
Base of well (OD)			67.53			67.53	0.00		67.53	67.00	67.54	67.54
Gas Concentrations												
Date monitored	-	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	11:43	12:02	12:00	11:01	10:20	10:42	12:04	10:19	13:00	11:16	12:36
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.3	0.7	<0.1	0.7	0.4	0.5	0.2	0.1	0.2	0.2	0.3
Oxygen	% vol	19.3	18.4	20.3	19.5	20.1	20	20.8	23	20.7	21.3	20.9
Atmospheric Pressure	mbars	994	1003	1004	1002	1015	983	985	984	1014	1009	1006
Gas Pressure	mbars	0.03	0.17	0.01	-0.03	0.07	0.01	-0.05	-0.07	<0.01	-0.04	0.05
Gas Flow Rate	l/hr	0.2	0.3	<0.1	<0.1	0.1	0.2	0.2	0.2	0.1	<0.1	0.3
Insitu Liquid Determinations												
pH	pH units											
Electrical Conductivity	µS/cm											
Dissolved Oxygen	mg/l											
Temperature	ºC											
Comment												

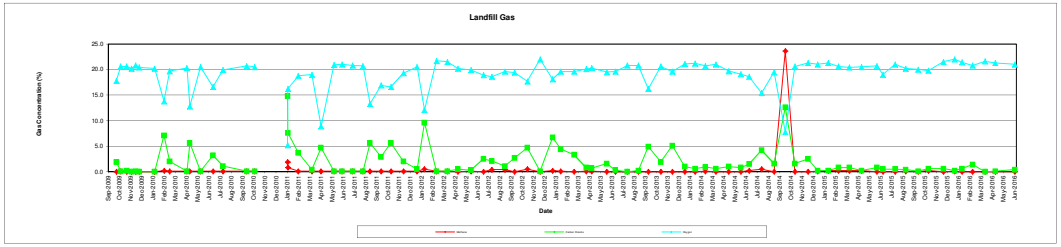
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T32																(Sept mon)			(Dec Mon)			(March Mon)				
Type Of Sample Required	Groundwater	16/10/09	28/10/09	13/11/09	26/11/09	08/12/09	17/12/09	28/01/10	23/02/10	10/03/2010	26/04/10	04/05/10	02/06/10	06/07/10	02/08/10	06/10/10	27/10/10	15/11/10	25/01/11	26/01/11	23/02/11	01/04/11	26/04/11	31/05/11	22/06/11	21/07/11
Determinand	Units																										
Water Level																											
Water level to top of casing	m								5.40	5.39	5.44	5.6	5.93	6.03	5.74	5.59	5.62		5.40	5.42	8.42	5.40	5.70	6.12	6.20	5.41
Borehole depth to top of casing	m								6.13	6.13	6.13	6.13	6.12	6.12	6.13	6.13	6.13		6.07	6.09	8.61	6.14	6.14	6.14		6.15
Casing Top relative to Ordnance Datum	m								72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86		72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86
Water level relative to Ordnance Datum	m								67.46	67.47	67.42	67.26	66.93	66.83	67.12	67.27	67.24		66.79	67.44	64.44	67.46	67.16	66.74	66.66	67.45
Calculated purge volume	litres																									
Base of well (OD)									66.73	66.73	66.73	66.73	66.74	66.74	66.73	66.73	66.73		66.79	66.77	64.25	66.72	66.72	66.72	72.86	66.71
Gas Concentrations																											
Date monitored	-	16/10/2009	28/10/2009	13/11/2009	26/11/2009	08/12/2009	17/12/2009	28/01/2010	23/02/2010	10/03/2010	26/04/2010	04/05/2010	02/06/2010	06/07/2010	02/08/2010	06/10/2010	27/10/2010		25/01/2011	26/01/2011	23/02/2011	01/04/2011	26/04/2011	31/05/2011	22/06/2011	21/07/2011
Time of measurement	-	15:07	12:23	14:14	11:07	13:57	11:33	00:28	10:15	10:40	13:20	13:35	13:58	11:58	14:18	16:12	13:27			15:35	10:10	17:17	14:30	10:03	15:24	09:55
Methane	% vol	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		1.9	0.8	0.1	0.1	0.1	0.1	0.1	0.1
Carbon Dioxide	% vol	1.9	0.1	0.2	0.0	0.1	0.0	0.0	7.1	2.0	0.1	5.6	0.1	3.2	1.1	0.1	0.1		14.8	7.6	3.7	0.4	4.7	0.1	0.1	0.1
Oxygen	% vol	17.8	20.6	20.6	20.2	20.8	20.4	20.2	13.8	19.7	20.3	12.8	20.5	16.6	19.9	20.7	20.5		5.2	16.2	18.8	19.0	8.9	20.9	21.0	20.8
Atmospheric Pressure	mbars	1032	1003	991	969	982	1012	1010	989	1024	1009	1016	1009	1010	1008	987	995		1007	1016	1001	995	1023	1006	999	1002
Gas Pressure	mbars	0.1	-0.02	-0.07	0.01	0.03	0.02	0.04	-0.08	+/-0.01	+/-0.01	0.1	-0.03	0.03	+/-0.01	0.04	+/-0.01		0.05	0.21	0.1	0.04	0	0	0.00	-0.10
Gas Flow Rate	l/hr	0.2	0.1	0.1	0.1	0.1	0.02	0	0	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1		+/-0.1	0.1	+/-0.1	0	0.1	-0.5	0.1	-0.1
Insitu Liquid Determinations																											
pH	pH units																										
Electrical Conductivity	µS/cm																										
Dissolved Oxygen	mg/l																										
Temperature	ºC																										
Comment																		Visit not undertaken due to adverse weather									



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T32																												
Type Of Sample Required	Groundwater	18/08/11	06/09/11	06/10/11	02/11/11	06/12/11	12/01/12	01/02/12	05/03/12	03/04/12	02/05/12	07/06/12	11/07/12	02/08/12	07/09/12	03/10/12	07/11/12	12/12/12	15/01/13	06/02/13	14/03/13	16/04/13	01/05/13	11/06/13	04/07/13	06/08/13	05/09/2013	02/10/13
Determinand	Units																												
Water Level																													
Water level to top of casing	m	5.40	5.68	5.45	5.42	5.48	5.41	5.42	6.12	Dry	5.42	6.11	5.41	5.48	5.29	5.34	5.40	6.14	5.14	4.88	4.58	5.55	5.61	Dry	Dry	Dry	Dry	Dry	
Borehole depth to top of casing	m	6.13	6.14	6.13	6.14	6.13	6.14	6.15	6.12	6.14	6.14	6.14	6.13	6.11	6.14	6.13	6.13	6.14	6.11	6.12	6.15	6.13	6.14	6.13	6.11	6.14	6.14	6.13	
Casing Top relative to Ordnance Datum	m	72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86	
Water level relative to Ordnance Datum	m	67.46	67.18	67.41	67.44	67.38	67.45	67.44	66.74		67.44	66.75	67.45	67.38	67.57	67.52	67.46	66.72	67.72	67.98	68.28	67.31	67.25						
Calculated purge volume	litres																												
Base of well (OD)		66.73	66.72	66.73	66.72	66.73	66.72	66.71	66.74	66.72	66.72	66.72	66.73	66.75	66.72	66.73	66.73	66.72	66.75	66.74	66.71	66.73	66.72	66.73	66.75	66.72	66.72	66.73	
Gas Concentrations																													
Date monitored	-	18/08/11	06/09/11	06/10/11	02/11/11	06/12/11	12/01/12	01/02/12	05/03/12	03/04/12	02/05/12	07/06/2012	11/07/12	02/08/2012	07/09/12	03/10/12	07/11/12	12./12/12	15/01/13	06/02/13	14/03/13	16/04/13	01/05/13	11/06/13	04/07/13	06/08/13	05/09/2013	02/10/13	
Time of measurement	-	10:55	12:57	10:23	09:41	11:54		11:22	15:01	13:49	14:30	12:19	14:25	16:49	11:23	14:17	12:57	12:22	15:30	12:32	12:23	14:24	14:34	10:38	12:00	11:01	12:14	14:46	
Methane	% vol	0.1	0.1	0.1	0.1	0.1	0.10	0.5	0.1	0.1	<0.1	0.1	<0.1	0.4	0.4	<0.1	0.5	<0.1	0.2	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Carbon Dioxide	% vol	0.1	5.6	2.9	5.6	2.0	0.5	9.6	0.1	0.1	0.5	0.3	2.5	2.1	1.1	2.7	4.7	0.1	6.7	4.4	3.3	0.8	0.7	1.6	0.3	<0.1	0.2	4.9	
Oxygen	% vol	20.7	13.3	16.9	16.6	19.3	20.5	12.1	21.7	21.5	20.2	19.9	18.9	18.6	19.6	19.4	17.7	22.0	18.1	19.6	19.6	20.1	20.3	19.5	19.6	20.8	20.8	16.2	
Atmospheric Pressure	mbars	1015	977	987	995	992	1013	1034	1017	1006	1022	992	1001	997	1009	987	1002	1007	1008	1006	1000	987	1011	1006	1000	1004	1005	1004	
Gas Pressure	mbars	0.01	0.01	-0.13	0.01	0.1	0.01	-0.03	0.27	-0.06	0.03	-0.16	-0.02	-0.24	-0.18	0.27	0.31	-0.02	-0.09	0.02	-0.15	-0.19	-0.12	-0.21	-0.03	-0.14	0.11	-0.11	
Gas Flow Rate	l/hr	0.1	0.1	-0.2	-0.1	-0.5	0.1	0.2	0.1	0.2	<0.1	0.1	<0.1	<0.1	0.1	<0.1	-0.1	0.1	-0.1	0.1	0.2	<0.1	<0.1	-0.1	0.1	<0.1	<0.1	-0.1	
Insitu Liquid Determinations																													
pH	pH units																												
Electrical Conductivity	µS/cm																												
Dissolved Oxygen	mg/l																												
Temperature	ºC																												
Comment																													



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

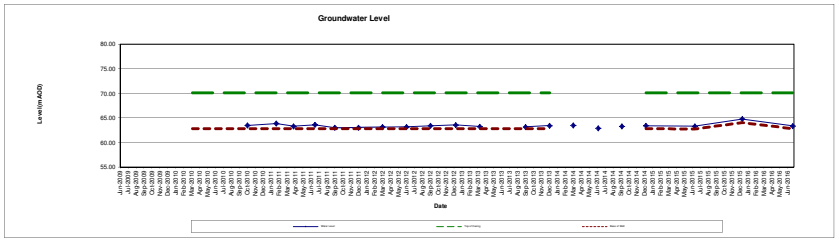
Sampling Location	**T32**																												
Type Of Sample Required	Groundwater	05/11/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	06/01/15	03/02/15	03/03/15	02/04/15	05/05/15	15/06/15	02/07/15	04/08/15	02/09/15	06/10/15	03/11/15	14/12/15	13/01/16
Determinand	Units																												
Water Level																													
Water level to top of casing	m	Dry	5.62	5.56	5.59	5.62	5.64	5.98	Dry	Dry	Dry	5.7	5.51	5.77	5.83			5.97			Dry			5.87			5.94	
Borehole depth to top of casing	m	6.1	6.11	6.14	6.14	6.14	6.14	6.14	6.14	6.13	6.13	6.13	6.13	6.15	6.13			6.14			6.12			6.12			6.15	
Casing Top relative to Ordnance Datum	m	72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86	72.86			72.86			72.86			72.86			72.86	
Water level relative to Ordnance Datum	m		67.24	67.30	67.27	67.24	67.22	66.88				67.16	67.35	67.09	67.03			66.89						66.99			66.92	
Calculated purge volume	litres																												
Base of well (OD)		66.76	66.75	66.72	66.72	66.72	66.72	66.72	66.72		66.73	66.73	66.73	66.71	66.73			66.72			66.74			66.74			66.71	
Gas Concentrations																													
Date monitored	-	05/11/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	06/01/15	03/02/15	03/03/15	02/04/15	05/05/15	15/06/15	02/07/15	04/08/15	02/09/15	06/10/15	03/11/15	14/12/15	13/01/16
Time of measurement	-	14:53	14:49	11:44	10:36	10:45	11:01	12:00	12:20	12:12	10:44	10:38	11:01	12:31	10:34	10:30	12:16	12:41	10:56	12:13	13:08	11:31	10:51	10:50	11:04	10:48	11:26	10:46	
Methane	% vol	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	0.5	<0.1	23.6	<0.1	<0.1	0.1	0.2	0.2	0.2	0.2	<0.1	<0.1	<0.1	0.1	<0.1	0.2	<0.1	0.1	
Carbon Dioxide	% vol	1.9	5.1	1	0.6	0.9	0.6	1	0.8	1.5	4.2	1.6	12.6	1.6	2.5	0.2	0.2	0.8	0.8	0.2	0.8	0.5	0.5	0.4	0.1	0.6	0.6	0.2	
Oxygen	% vol	20.6	19.6	21.1	21.2	20.7	21	19.7	19.1	18.6	15.4	19.5	7.8	20.6	21.3	21	21.3	20.6	20.4	20.5	20.7	19	21	20.2	20	19.8	21.5	22	
Atmospheric Pressure	mbars	980	1020	990	974	1007	999	994	1004	1003	1001	1014	983	985	984	1000	1006	994	1012	982	1014	1004	999	1008	990	1008	1009	1000	
Gas Pressure	mbars	0.22	<0.01	<0.01	-0.14	-0.13	-0.07	0.1	0.09	-0.07	-0.02	<0.01	0.99	0.1	-0.02	0.12	0.13	0.08	0.07	0.16	0.02	<0.01	-0.02	0.15	0.09	0.19	-0.05	-0.12	
Gas Flow Rate	l/hr	<0.1	0.1	0.2	0.1	<0.1	0.1	0.2	0.2	<0.1	<0.1	0.1	0.2	0.3	0.1	-0.1	-0.1	<0.1	<0.1	<0.1	0.1	0.1	0.2	-0.1	<0.1	-0.1	<0.1	<0.1	
Insitu Liquid Determinations																													
pH	pH units																												
Electrical Conductivity	µS/cm																												
Dissolved Oxygen	mg/l																												
Temperature	℃																												
Comment																													

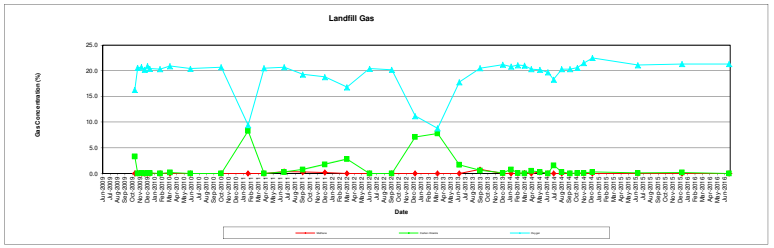
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T32**					
Type Of Sample Required	Groundwater	02/02/16	02/03/16	05/04/16	03/05/16	24/06/16
Determinand	Units					
Water Level						
Water level to top of casing	m		5.86			5.76
Borehole depth to top of casing	m		6.14			6.13
Casing Top relative to Ordnance Datum	m		72.86			72.86
Water level relative to Ordnance Datum	m		67.00			67.10
Calculated purge volume	litres					
Base of well (OD)			66.72			66.73
Gas Concentrations						
Date monitored	-	02/02/16	02/03/16	05/04/16	03/05/16	24/06/16
Time of measurement	-	10:41	11:18	09:23	09:59	12:45
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.6	1.4	<0.1	0.1	0.4
Oxygen	% vol	21.4	20.8	21.6	21.3	21
Atmospheric Pressure	mbars	982	982	994	1007	1006
Gas Pressure	mbars	-0.01	-0.14	-0.08	-0.17	0.05
Gas Flow Rate	l/hr	0.1	-0.2	-0.2	-0.1	0.3
Insitu Liquid Determinations						
pH	pH units					
Electrical Conductivity	µS/cm					
Dissolved Oxygen	mg/l					
Temperature	ºC					
Comment						

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T33											(Sept mon)	(Dec Mon)	(March Mon)															
Type Of Sample Required	Groundwater	16/10/09	28/10/09	13/11/09	26/11/09	08/12/09	17/12/09	28/01/10	10/03/2010	02/06/10	06/10/10	25/01/11	01/04/11	22/06/11	06/09/11	06/12/11	06/03/12	07/06/12	07/09/12	12/12/12	14/03/13	11/06/13	05/09/2013	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14
Determinand	Units																											
Water Level																												
Water level to top of casing	m								Dry	Dry	6.62	6.26	6.80	6.50	7.08	7.05	6.96	6.93	6.69	6.54	6.86	Dry	6.93	6.66			6.62	
Borehole depth to top of casing	m								7.31	7.31	7.27	7.38	7.32	7.32	7.37	7.31	7.30	7.34	7.32	7.32	7.31	7.31	7.31	7.29			7.3	
Casing Top relative to Ordnance Datum	m								70.11	70.11	70.11	70.11	70.11	70.11	70.11	70.11	70.11	70.11	70.11	70.11	70.11	70.11	70.11	70.11			70.11	
Water level relative to Ordnance Datum	m										63.49	63.85	63.31	63.61	63.03	63.06	63.15	63.18	63.42	63.57	63.25		63.18	63.45			63.49	
Calculated purge volume	litres																											
Base of well (OD)									62.80	62.80	62.80	62.80	62.80	62.80	62.80	62.80	62.80	62.80	62.80	62.79	62.80	62.80	62.80	62.82			62.81	
Gas Concentrations																												
Date monitored	-	16/10/2009	28/10/2009	13/11/2009	26/11/2009	08/12/2009	17/12/2009	28/01/2010	10/03/2010	02/06/2010	06/10/2010	25/01/2011	01/04/2011	22/06/2011	06/09/11	06/12/12	06/03/12	07/06/2012	07/09/12	12/12/12	14/03/13	11/06/13	05/09/2013	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14
Time of measurement	-	15:15	12:45	14:25	11:21	14:08	11:48	03:36	10:30	13:30	16:29		18:08	15:11	13:11	11:25	10:34	12:31	11:47	12:50	12:51	10:55	12:46	14:14	12:02	10:52	11:13	11:16
Methane	% vol	0.0	0.1	0.0	0.0	0.0	0.0	0.0	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	0.3	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.8	<0.1	<0.1	<0.1	0.1	<0.1
Carbon Dioxide	% vol	3.3	0.0	0.1	0.0	0.1	0.1	0.0	0.2	<0.1	<0.1	8.3	<0.1	0.3	0.8	1.8	2.8	<0.1	<0.1	7.1	7.8	1.7	0.6	0.1	0.8	0.1	<0.1	0.5
Oxygen	% vol	16.3	20.6	20.7	20.2	20.9	20.4	20.3	20.9	20.4	20.7	9.4	20.5	20.7	19.3	18.8	16.8	20.4	20.2	11.2	8.8	17.8	20.5	21.2	20.8	21.1	21	20.3
Atmospheric Pressure	mbars	1032	1004	992	970	983	1013	1010	1024	1009	987	1007	999	999	977	992	1013	992	1009	1007	1001	1006	1005	1020	990	974	1007	1000
Gas Pressure	mbars	0.01	-0.01	-0.02	0.01	0.01	0.01	0.01	+/-0.01	+/-0.01	0.09	0.07	-0.03	0.00	0.01	<0.1	0.15	-0.22	-0.01	0.10	0.03	0.02	0.1	0.01	0.17	<0.01	-0.13	-0.17
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	0.01	0	+/-0.1	-0.1	+/-0.1	+/-0.1	0	<0.1	<0.1	-0.2	-0.1	<0.1	0.1	0.2	<0.1	0.1	<0.1	<0.1	0.2	0.1	<0.1	<0.1
Insitu Liquid Determinations																												
pH	pH units																											
Electrical Conductivity	µS/cm																											
Dissolved Oxygen	mg/l																											
Temperature	℃																											
Comment																												



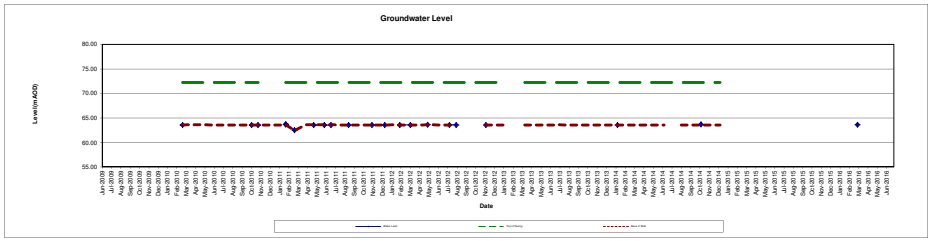


Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T33**											
Type Of Sample Required	Groundwater	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	15/06/15	14/12/15	24/06/16
Determinand	Units											
Water Level												
Water level to top of casing	m		7.21			6.82			6.68	6.8	5.34	6.72
Borehole depth to top of casing	m		7.31			7.34			7.31	7.34	6.09	7.31
Casing Top relative to Ordnance Datum	m		70.11			70.11			70.11	70.11	70.11	70.11
Water level relative to Ordnance Datum	m		62.90			63.29			63.43	63.31	64.77	63.39
Calculated purge volume	litres											
Base of well (OD)			62.80			62.77			62.80	62.77	64.02	62.80
Gas Concentrations												
Date monitored	-	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	12:13	12:36	12:30	10:26	11:04	11:16	12:45	11:07	13:40	11:16	13:09
Methane	% vol	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.3	<0.1	1.6	0.3	<0.1	0.1	0.1	0.3	0.1	0.2	<0.1
Oxygen	% vol	20.2	19.7	18.3	20.3	20.3	20.6	21.5	22.5	21.1	21.3	21.3
Atmospheric Pressure	mbars	994	1004	1003	1001	1014	983	986	983	1015	1009	1007
Gas Pressure	mbars	-0.14	-0.09	-0.13	<0.01	-0.09	-0.04	0.03	0.29	0.03	-0.04	0.03
Gas Flow Rate	l/hr	0.2	0.1	<0.1	<0.1	0.1	0.2	0.2	0.2	<0.1	<0.1	0.4
Insitu Liquid Determinations												
pH	pH units											
Electrical Conductivity	µS/cm											
Dissolved Oxygen	mg/l											
Temperature	ºC											
Comment												

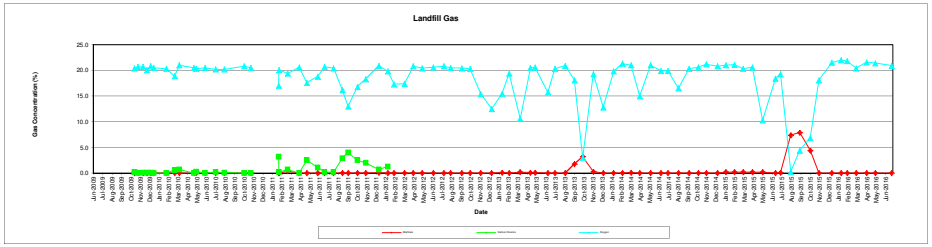
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T34																(Sept mon)			(Dec Mon)			(March Mon)				
Type Of Sample Required	Groundwater	16/10/09	28/10/09	13/11/09	26/11/09	08/12/09	17/12/09	28/01/10	23/02/10	10/03/10	26/04/10	04/05/10	02/06/10	06/07/2010	02/08/2010	06/10/2010	27/10/2010	15/11/10	25/01/11	26/01/11	23/02/11	01/04/11	26/04/11	31/05/11	22/06/11	21/07/11
Determinand	Units																										
Water Level																											
Water level to top of casing	m								8.61	Dry	Dry	Dry	Dry	Dry	Dry	8.62	8.62		8.48	8.48	9.69	Dry	8.64	8.64	8.65	DRY
Borehole depth to top of casing	m								8.64	8.63	8.63	8.63	8.64	8.64	8.64	8.65	8.65		8.65	8.65	9.78	8.63	8.63	8.63	8.63	8.69
Casing Top relative to Ordnance Datum	m								72.23	72.23	72.23	72.23	72.23	72.23	72.23	72.23	72.23		72.23	72.23	72.23	72.23	72.23	72.23	72.23	72.23
Water level relative to Ordnance Datum	m								63.62							63.61	63.61		63.75	63.75	62.54		63.59	63.59	63.58	
Calculated purge volume	litres																										
Base of well (OD)									63.59	63.60	63.60	63.60	63.59	63.59	63.59	63.58	63.58	63.58	63.58	63.58	62.45	63.60	63.60	63.60	63.60	63.58
Gas Concentrations																											
Date monitored	-	16/10/2009	28/10/2009	13/11/2009	26/11/2009	08/12/2009	17/12/2009	28/01/2010	23/02/2010	10/03/2010	26/04/2010	04/05/2010	02/06/2010	06/07/2010	02/08/2010	06/10/2010	27/10/2010		25/01/2011	26/01/2011	23/02/2011	01/04/2011	26/04/2011	31/05/2011	22/06/2011	20/07/2011
Time of measurement	-	15:19	13:09	14:34	11:32	14:19	12:03	05:45	10:50	09:55	13:49	13:19	12:43	11:13	14:02	14:43	13:42			15:25	10:15	18:10	14:08	09:52	15:01	09:43
Methane	% vol	0.0	0.1	0.0	0.0	0.0	0.0	0.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.2	0.0	0.1	0.1	0.1	0.0	0.0	0.6	0.7	<0.1	0.3	<0.1	0.2	0.1	<0.1	<0.1		3.2	0.2	0.7	<0.1	2.5	1.1	0.2	0.2
Oxygen	% vol	20.4	20.7	20.7	20.1	20.8	20.5	20.3	18.9	21.0	20.5	20.3	20.5	20.2	20.2	20.8	20.5		17.0	20.1	19.4	20.6	17.6	18.8	20.7	20.4
Atmospheric Pressure	mbars	1032	1004	991	970	982	1012	1010	990	1023	1009	1016	1009	1011	1008	987	995		1007	1016	1001	999	1023	1006	999	1002
Gas Pressure	mbars	0.04	-0.02	-0.03	0.12	0.01	0.08	0.08	0.00	+/-0.01	+/-0.01	+/-0.01	-0.03	-0.08	0.01	0.02	0.03		0.5	0.1	0.19	-0.01	6.97	0	0.00	-0.06
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	0.01	0	0	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.2	+/-0.1	+/-0.1	+/-0.1		0.2	0.1	0.02	0	0.3	-0.2	<0.1	-0.2
Insitu Liquid Determinations																											
pH	pH units																										
Electrical Conductivity	µS/cm																										
Dissolved Oxygen	mg/l																										
Temperature	ºC																										
Comment																		Visit not undertaken due to adverse weather									



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T34																												
Type Of Sample Required	Groundwater	18/08/11	06/09/11	06/10/11	02/11/11	14/12/11	12/01/12	01/02/12	06/03/12	03/04/12	02/05/12	07/06/12	11/07/12	02/08/2012	07/09/12	03/10/12	07/11/12	12/12/12	15/01/13	06/02/13	14/03/13	16/04/13	01/05/13	11/06/13	04/07/13	06/08/13	05/09/13	02/10/13
Determinand	Units																												
Water Level																													
Water level to top of casing	m	8.66	Dry	Dry	8.67	8.63	Dry	8.64	8.63	Dry	8.60	Dry	8.63	8.63	Dry	Dry	8.64	Dry	Dry		Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Borehole depth to top of casing	m	8.66	8.64	8.64	8.67	8.65	8.62	8.68	8.70	8.65	8.62	8.65	8.66	8.65	8.65	8.65	8.68	8.65	8.67		8.67	8.67	8.68	8.64	8.63	8.66	8.67	8.66	
Casing Top relative to Ordnance Datum	m	72.23	72.23	72.23	72.23	72.23	72.23	72.23	72.23	72.23	72.23	72.23	72.23	72.23	72.23	72.23	72.23	72.23	72.23		72.23	72.23	72.23	72.23	72.23	72.23	72.23	72.23	
Water level relative to Ordnance Datum	m	63.57			63.56	63.60		63.59	63.60		63.63		63.60	63.60			63.59												
Calculated purge volume	litres																												
Base of well (OD)		63.57	63.58	63.59	63.56	63.58	63.61	63.55	63.53	63.58	63.61	63.58	63.57	63.58			63.55	63.58	63.56		63.56	63.56	63.55	63.59	63.60	63.57	63.56	63.57	
Gas Concentrations																													
Date monitored	-	18/08/11	06/09/11	06/10/11	02/11/11	14/12/12	12/01/12	01/02/12	06/03/12	03/04/12	02/05/12	07/06/2012	11/07/12	02/08/2012	07/09/12	03/10/12	07/11/12	12/12/12	15/01/13	06/02/13	14/03/13	16/04/13	01/05/13	11/06/13	04/07/13	06/08/13	05/09/13	02/10/13	
Time of measurement	-	10:43	13:27	10:44	10:20	10:19	11:36	11:10	11:48	13:32	14:00	12:50	14:00	17:01	12:11	14:40	13:18	13:23	15:52	12:58	13:26	14:45	14:49	11:26	12:23	11:27	13:12	15:09	
Methane	% vol	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.2	0.1	0.1	<0.1	<0.1	<0.1	1.8	3.2	
Carbon Dioxide	% vol	2.9	4.0	2.5	2.0	0.7	1.3	3.9	3.7	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	3.2	7.1	3.8	1.6	8.2	<0.1	<0.1	3.5	<0.1	<0.1	2	14.3	
Oxygen	% vol	16.2	13.0	16.8	18.3	20.9	19.8	17.3	17.4	20.8	20.4	20.6	20.8	20.5	20.4	20.3	15.4	12.5	15.5	19.4	10.6	20.5	20.6	15.7	20.3	20.9	18.1	3	
Atmospheric Pressure	mbars	1015	977	987	995	968	1012	1033	1013	1006	1021	992	1001	997	1009	986	1002	1006	1007	1006	1001	988	1011	1005	1000	1004	1005	1005	
Gas Pressure	mbars	<0.01	0.01	-0.17	-0.01	<0.1	0.02	-0.01	0.05	-0.04	-0.12	-0.20	-0.02	-0.21	-0.08	0.17	0.28	0.02	-0.09	-0.05	-0.03	-0.07	-0.15	0.22	<0.01	-0.14	0.06	0.08	
Gas Flow Rate	l/hr	<0.1	<0.1	-0.1	<0.1	0.1	<0.1	0.1	0.1	-0.3	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	-0.3	0.1	<0.1	0.1	0.2	-0.1	-0.1	<0.1	<0.1	-0.1	<0.1	0.2	
Insitu Liquid Determinations																													
pH	pH units																												
Electrical Conductivity	µS/cm																												
Dissolved Oxygen	mg/l																												
Temperature	ºC																												
Comment																													



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

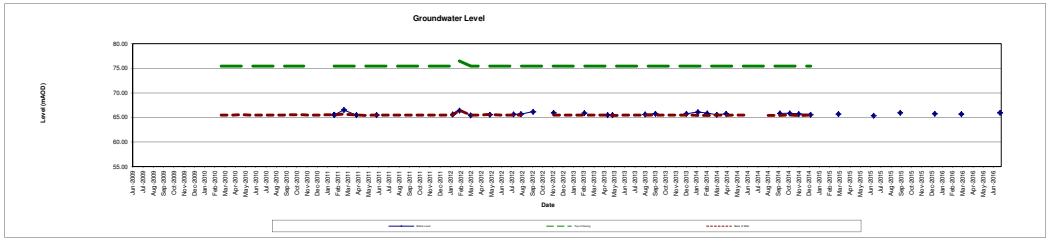
Sampling Location	**T34**																												
Type Of Sample Required	Groundwater	05/11/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	06/01/15	03/02/15	03/03/15	02/04/15	05/05/15	15/06/15	02/07/15	04/08/15	02/09/15	06/10/15	03/11/15	14/12/15	13/01/16
Determinand	Units																												
Water Level																													
Water level to top of casing	m	Dry	Dry	8.66	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	8.54	Dry	Dry			Dry			Dry			Dry			Dry	
Borehole depth to top of casing	m	8.65	8.64	8.67	8.66	8.67	8.69	8.66	8.65	8.67	8.68	8.67	8.68	8.67	8.69			8.67			8.68			8.67			8.68	
Casing Top relative to Ordnance Datum	m	72.23	72.23	72.23	72.23	72.23	72.23	72.23	72.23	72.23	72.23	72.23	72.23	72.23	72.23			72.23			72.23			72.23			72.23	
Water level relative to Ordnance Datum	m			63.57									63.69																
Calculated purge volume	litres																												
Base of well (OD)		63.58	63.59	63.56	63.57	63.56	63.54	63.57	63.58		63.55	63.56	63.55	63.56	63.54			63.56			63.55			63.56			63.55	
Gas Concentrations																													
Date monitored	-	05/11/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	06/01/15	03/02/15	03/03/15	02/04/15	05/05/15	15/06/15	02/07/15	04/08/15	02/09/15	06/10/15	03/11/15	14/12/15	13/01/16
Time of measurement	-	15:17	13:12	12:29	11:17	11:39	11:42	12:32	13:06	12:54	11:47	11:29	11:40	13:14	11:21	10:45	12:27	13:01	11:08	12:23	13:57	11:47	11:08	11:05	11:26	11:15	12:11	10:59	
Methane	% vol	0.3	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	0.2	0.2	0.2	<0.1	0.1	7.4	7.9	4.4	<0.1	<0.1	<0.1	
Carbon Dioxide	% vol	1.4	7.7	2.1	0.1	<0.1	6.9	<0.1	0.3	0.2	2.4	<0.1	<0.1	0.2	1.3	0.1	0.3	0.4	<0.1	8.2	2.1	<0.1	15.1	11.4	11.6	1.6	0.2	0.5	
Oxygen	% vol	19.3	12.8	19.8	21.3	21	15	21	19.9	19.9	16.5	20.3	20.6	21.2	20.8	21	21.1	20.3	20.6	10.3	18.4	19.3	0.3	4.4	6.9	18.1	21.5	22	
Atmospheric Pressure	mbars	980	1015	989	974	1007	1000	994	1005	1002	1001	1014	983	986	983	1000	1007	994	1012	983	1015	1004	999	1008	990	1008	1009	1000	
Gas Pressure	mbars	0.22	-0.15	-0.07	-0.03	-0.09	-0.14	-0.07	-0.09	-0.21	<0.01	-0.13	-0.07	-0.05	-0.12	0.16	0.17	0.08	0.09	0.18	0.1	-0.06	-0.02	0.11	0.08	0.17	<0.01	-0.12	
Gas Flow Rate	l/hr	<0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	<0.1	<0.1	0.2	0.1	0.2	0.2	<0.1	-0.3	<0.1	0.1	0.3	-0.1	<0.1	0.2	-0.2	0.2	<0.1	<0.1	<0.1	
Insitu Liquid Determinations																													
pH	pH units																												
Electrical Conductivity	µS/cm																												
Dissolved Oxygen	mg/l																												
Temperature	℃																												
Comment																													

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T34**					
Type Of Sample Required	Groundwater	02/02/16	02/03/16	05/04/16	03/05/16	24/06/16
Determinand	Units					
Water Level						
Water level to top of casing	m		8.58			Dry
Borehole depth to top of casing	m		8.66			8.67
Casing Top relative to Ordnance Datum	m		72.23			72.23
Water level relative to Ordnance Datum	m		63.65			
Calculated purge volume	litres					
Base of well (OD)			63.57			63.56
Gas Concentrations						
Date monitored	-	02/02/16	02/03/16	05/04/16	03/05/16	24/06/16
Time of measurement	-	11:02	11:39	09:38	10:14	14:07
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	0.6	<0.1	<0.1	0.1
Oxygen	% vol	21.8	20.4	21.6	21.4	20.9
Atmospheric Pressure	mbars	982	982	994	1007	1006
Gas Pressure	mbars	-0.08	-0.14	-0.1	-0.2	0.09
Gas Flow Rate	l/hr	0.2	-0.1	-0.2	-0.2	0.4
Insitu Liquid Determinations						
pH	pH units					
Electrical Conductivity	µS/cm					
Dissolved Oxygen	mg/l					
Temperature	ºC					
Comment						

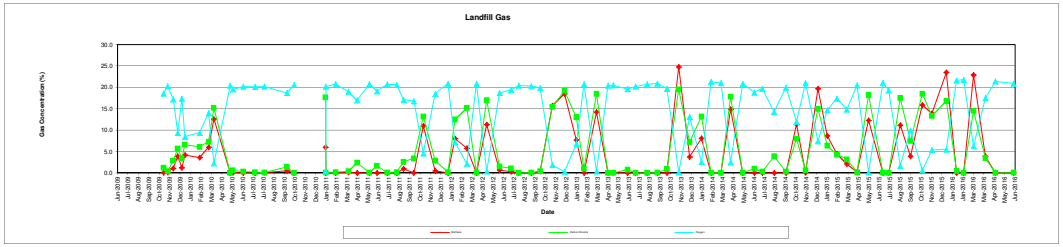
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T35																(Sept mon)			(Dec Mon)			(March Mon)				
Type Of Sample Required	Groundwater	16/10/09	28/10/09	13/11/09	26/11/09	08/12/09	17/12/09	28/01/10	23/02/10	10/03/2010	26/04/10	04/05/10	02/06/10	06/07/2010	02/08/2010	06/10/2010	27/10/2010	15/11/10	25/01/11	26/01/11	23/02/11	01/04/11	26/04/11	31/05/11	22/06/11	21/07/11
Determinand	Units																										
Water Level																											
Water level to top of casing	m								Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry		9.91	9.91	8.94	9.98	Dry	9.99	DRY	DRY
Borehole depth to top of casing	m								9.99	9.98	9.97	9.97	9.99	9.99	9.98	9.97	9.97		9.94	9.94	9.82	10.03	10.05	10.03	10.25	10.00
Casing Top relative to Ordnance Datum	m								75.49	75.49	75.49	75.49	75.49	75.49	75.49	75.49	75.49		75.49	75.49	75.49	75.49	75.49	75.49	75.49	75.49
Water level relative to Ordnance Datum	m																		65.58	65.58	66.55	65.51		65.50		
Calculated purge volume	litres																									
Base of well (OD)									65.50	65.51	65.52	65.52	65.50	65.50	65.51	65.52	65.52	65.50	65.55	65.55	65.67	65.46	65.44	65.46	65.50	65.50
Gas Concentrations																										
Date monitored	-	16/10/2009	28/10/2009	13/11/2009	26/11/2009	08/12/2009	17/12/2009	28/01/2010	23/02/2010	10/03/2010	26/04/2010	04/05/2010	02/06/2010	06/07/2010	02/08/2010	06/10/2010	27/10/2010		25/01/2011	26/01/2011	23/02/2011	01/04/2011	26/04/2011	31/05/2011	22/06/2011	20/07/2011
Time of measurement	-	15:24	13:15	14:39	11:38	14:25	12:07	07:26	11:00	09:25	13:55	13:19	12:29	11:06	13:50	16:55	14:00			15:15	10:40	18:17	14:47	09:43	14:47	09:37
Methane	% vol	0.1	0.2	1.1	3.9	1.2	4.2	3.6	6.0	12.6	<0.1	0.12	<0.1	<0.1	0.1	0.5	<0.1		6.0	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	1.2	0.4	2.9	5.7	3.4	6.6	6.1	7.3	15.2	<0.1	0.6	0.3	0.2	0.1	1.4	<0.1		17.7	0.1	0.2	0.4	2.4	0.1	1.7	0.1
Oxygen	% vol	18.6	20.3	17.2	9.4	17.4	8.5	9.4	14.0	2.3	20.4	19.5	20.2	20.1	20.2	18.7	20.6		0.4	20.2	20.8	19.0	17.0	20.8	19.1	20.7
Atmospheric Pressure	mbars	1032	1003	990	969	982	1012	1010	990	1023	1009	1016	1009	1011	1008	987	995		1007	1016	1001	999	1023	1006	999	1002
Gas Pressure	mbars	0	0	0.01	0.11	0.01	0.01	0.02	0.00	+/-0.01	0.03	+/-0.01	-0.04	-0.02	+/-0.01	-0.03	0.05		0.07	0.02	0.8	0.17	0	0	0.00	-0.04
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0	0	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.2	+/-0.1		+/-0.1	0	-0.3	0	0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																										
pH	pH units																									
Electrical Conductivity	µS/cm																									
Dissolved Oxygen	mg/l																									
Temperature	ºC																									
Comment																		Visit not undertaken due to adverse weather								



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T35																											
Type Of Sample Required	Groundwater	18/08/11	06/09/11	06/10/11	02/11/11	06/12/11	12/01/12	01/02/12	06/03/12	03/04/12	02/05/12	08/06/12	11/07/12	02/08/12	07/09/12	03/10/12	07/11/12	12/12/12	15/01/13	06/02/13	14/03/13	16/04/13	01/05/13	11/06/13	04/07/13	06/08/13	05/09/13	02/10/13
Determinand	Units																											
Water Level																												
Water level to top of casing	m	DRY	DRY	DRY	DRY	DRY	9.82	10.04	10.03	Dry	9.89	Dry	9.84	9.81	9.30	Dry	9.50	Dry	Dry	9.59	Dry	9.99	9.98	Dry	Dry	9.83	9.74	Dry
Borehole depth to top of casing	m	10.00	10.03	9.97	10.13	10.00	9.98	10.04	10.03	10.02	9.89	9.98	9.98	10.00	9.99	10.00	9.99	10.00	10.02	10.03	10.00	10.02	10.05	9.99	10	10.02	10.01	10.02
Casing Top relative to Ordnance Datum	m	75.49	75.49	75.49	75.49	75.49	75.49	76.49	75.49	75.49	75.49	75.49	75.49	75.49	75.49	75.49	75.49	75.49	75.49	75.49	75.49	75.49	75.49	75.49	75.49	75.49	75.49	75.49
Water level relative to Ordnance Datum	m						65.67	66.45	65.46		65.60		65.65	65.68	66.19		65.99			65.90		65.50	65.51			65.66	65.75	
Calculated purge volume	litres																											
Base of well (OD)		65.50	65.50	65.50	65.50	65.50	65.51	66.45	65.46	65.47	65.60	65.51	65.51	65.49			65.50	65.49	65.47	65.46	65.49	65.47	65.44	65.50	65.49	65.47	65.48	65.47
Gas Concentrations																												
Date monitored	-	18/08/11	06/09/11	06/10/11	02/11/11	06/12/12	12/01/12	01/02/12	06/03/12	03/04/12	02/05/12	08/06/12	11/07/12	02/08/12	07/09/12	03/10/12	07/11/12	12/12/12	15/01/13	06/02/13	14/03/13	16/04/13	01/05/13	11/06/13	04/07/13	06/08/13	05/09/13	02/10/13
Time of measurement	-	10:38	13:32	10:38	10:12	10:32	11:31	11:05	12:10	13:23	13:50	14:41	13:51	17:06	12:24	14:35	13:14	13:19	15:47	13:04	13:32	14:40	14:54	11:19	12:17	11:21	13:07	15:04
Methane	% vol	<0.1	1.0	<0.1	11.0	0.5	<0.1	8	5.8	<0.1	11.3	0.7	0.3	<0.1	<0.1	0.4	15.7	18.5	7.7	<0.1	14.2	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.2	2.6	3.4	13.2	2.9	0.2	12.5	15.2	0.1	17.0	1.5	1.1	<0.1	0.1	0.4	15.4	19.2	13.0	1.0	18.5	<0.1	<0.1	0.8	<0.1	<0.1	0.1	0.9
Oxygen	% vol	20.6	17.1	16.8	4.6	18.5	20.9	7.2	2.2	20.9	0.4	18.7	19.4	20.4	20.3	19.9	1.9	0.3	6.8	20.8	0.4	20.4	20.5	19.6	20.2	20.7	20.9	19.7
Atmospheric Pressure	mbars	1015	976	987	995	991	1012	1033	1012	1006	1021	987	1001	997	1008	987	1002	1005	1008	1006	1001	988	1012	1005	1001	1005	1005	1005
Gas Pressure	mbars	0.05	0.93	-0.18	-0.02	<0.1	0.01	<0.01	0.02	-0.02	-0.15	-0.09	-0.09	-0.24	-0.08	0.18	0.28	-0.02	-0.07	0.05	-0.07	-0.06	-0.14	0.07	0.02	-0.15	0.06	0.05
Gas Flow Rate	l/hr	<0.1	-0.1	-0.1	<0.1	-0.2	<0.1	<0.1	0.1	-0.2	<0.1	-0.2	<0.1	<0.1	0.2	-0.1	<0.1	0.2	<0.1	<0.1	0.2	-0.9	-0.2	0.1	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																												
pH	pH units																											
Electrical Conductivity	µS/cm																											
Dissolved Oxygen	mg/l																											
Temperature	ºC																											
Comment				Borehole dry																								



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

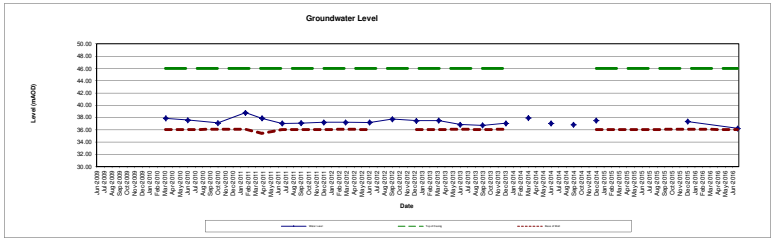
Sampling Location	**T35**																												
Type Of Sample Required	Groundwater	05/11/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	06/01/15	03/02/15	03/03/15	02/04/15	05/05/15	15/06/15	02/07/15	04/08/15	02/09/15	06/10/15	03/11/15	14/12/15	13/01/16
Determinand	Units																												
Water Level																													
Water level to top of casing	m	Dry	9.72	9.37	9.64	9.94	9.74	Dry	Dry	Dry	Dry	9.67	9.64	9.75	9.88			9.81			10.1			9.53			9.71	
Borehole depth to top of casing	m	9.99	10.01	10.04	10.04	10.03	10.04	10.02	10.02	10.02	10.04	10.06	10.03	10.04	10.02			10.02			10.1			10.03			10.03	
Casing Top relative to Ordnance Datum	m	75.49	75.49	75.49	75.49	75.49	75.49	75.49	75.49	75.49	75.49	75.49	75.49	75.49	75.49			75.49			75.49			75.49			75.49	
Water level relative to Ordnance Datum	m		65.77	66.12	65.85	65.55	65.75					65.82	65.85	65.74	65.61			65.68			65.39			65.96			65.78	
Calculated purge volume	litres																												
Base of well (OD)		65.50	65.48	65.45	65.45	65.46	65.45	65.47	65.47		65.45	65.43	65.46	65.45	65.47			65.47			65.39			65.46			65.46	
Gas Concentrations																													
Date monitored	-	05/11/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	06/01/15	03/02/15	03/03/15	02/04/15	05/05/15	15/06/15	02/07/15	04/08/15	02/09/15	06/10/15	03/11/15	14/12/15	13/01/16
Time of measurement	-	15:12	12:55	12:23	11:13	11:34	11:37	12:28	13:01	12:48	11:36	11:38	11:51	13:08	11:26	10:41	12:32	12:57	11:12	12:27	14:02	11:43	11:17	11:00	11:20	11:10	12:06	10:55
Methane	% vol	24.8	3.8	8.1	<0.1	0.1	14.9	<0.1	<0.1	<0.1	<0.1	<0.1	11.4	0.1	19.7	8.7	4.5	2.1	0.2	12.3	<0.1	0.1	11.2	3.9	15.9	13.9	23.5	<0.1
Carbon Dioxide	% vol	19.5	7.2	13.2	0.1	<0.1	17.8	0.1	1	0.3	3.9	0.3	8	0.6	15	6.4	4.3	3.2	0.2	18.2	0.1	<0.1	17.5	7.5	18.5	13.3	16.8	0.5
Oxygen	% vol	0.2	13.1	2.6	21.3	21	2.5	20.9	18.8	19.7	14.3	20	12	21	7.4	14.7	17.4	14.8	20.5	0.2	21.1	19.3	1.7	10	0.6	5.4	5.5	21.6
Atmospheric Pressure	mbars	981	1014	989	974	1007	999	994	1004	1002	1001	1013	983	986	983	1001	1007	995	1012	982	1015	1005	999	1009	991	1009	1009	1000
Gas Pressure	mbars	0.23	-0.19	-0.02	0.02	-0.08	-0.12	-0.12	-0.07	-0.21	-0.37	-0.14	-0.05	0.19	-0.1	0.12	0.18	0.09	0.05	0.17	0.12	-0.07	-0.03	0.11	0.08	0.18	-0.05	-0.08
Gas Flow Rate	l/hr	0.1	0.1	0.3	0.2	<0.1	<0.1	0.2	0.2	<0.1	<0.1	0.2	0.2	0.2	0.2	-0.1	-0.2	<0.1	<0.1	0.2	<0.1	<0.1	0.2	-0.1	<0.1	-0.1	<0.1	0.1
Insitu Liquid Determinations																													
pH	pH units																												
Electrical Conductivity	µS/cm																												
Dissolved Oxygen	mg/l																												
Temperature	℃																												
Comment																													

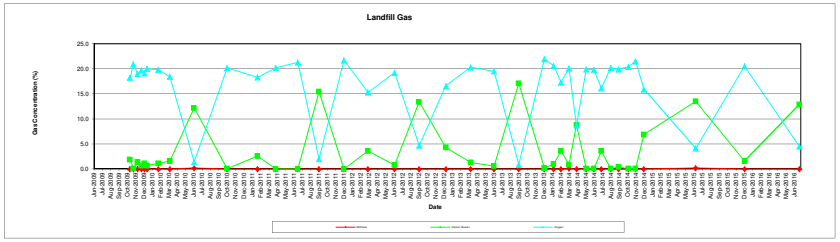
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T35**					
Type Of Sample Required	Groundwater	02/02/16	02/03/16	05/04/16	03/05/16	24/06/16
Determinand	Units					
Water Level						
Water level to top of casing	m		9.8			9.52
Borehole depth to top of casing	m		10.05			10.03
Casing Top relative to Ordnance Datum	m		75.49			75.49
Water level relative to Ordnance Datum	m		65.69			65.97
Calculated purge volume	litres					
Base of well (OD)			65.44			65.46
Gas Concentrations						
Date monitored	-	02/02/16	02/03/16	05/04/16	03/05/16	24/06/16
Time of measurement	-	10:58	11:34	09:41	10:11	14:02
Methane	% vol	<0.1	22.9	3.9	0.1	<0.1
Carbon Dioxide	% vol	<0.1	14.5	3.5	<0.1	0.1
Oxygen	% vol	21.8	6.3	17.5	21.4	20.9
Atmospheric Pressure	mbars	983	983	994	1006	1006
Gas Pressure	mbars	0.07	-0.14	-0.11	-0.3	0.05
Gas Flow Rate	l/hr	<0.1	<0.1	-0.2	-0.3	0.4
Insitu Liquid Determinations						
pH	pH units					
Electrical Conductivity	µS/cm					
Dissolved Oxygen	mg/l					
Temperature	℃					
Comment						

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T36											(Sept mon)	(Dec Mon)	(March Mon)														
Type Of Sample Required	Groundwater	16/10/09	28/10/09	13/11/09	26/11/09	08/12/09	17/12/09	28/01/10	10/03/10	07/06/10	06/10/10	25/01/11	01/04/11	21/06/11	06/09/11	06/12/11	02/03/12	07/06/12	06/09/12	12/12/12	12/03/13	06/06/13	04/09/13	06/12/13	09/01/14	04/02/14	06/03/14	02/04/14
Determinand	Units																											
Water Level																												
Water level to top of casing	m								8.16	8.44	8.91	7.24	8.15	8.98	8.92	8.81	8.80	8.84	8.28	8.54	8.51	9.16	9.29	8.96			8.11	
Borehole depth to top of casing	m								9.98	10.00	9.92	9.95	10.60	9.99	9.99	9.99	9.94	9.97	9.98	9.98	9.97	9.96	9.98	9.96			9.97	
Casing Top relative to Ordnance Datum	m								46.03	46.03	46.03	46.03	46.03	46.03	46.03	46.03	46.03	46.03	46.03	46.03	46.03	46.03	46.03	46.03			46.03	
Water level relative to Ordnance Datum	m								37.87	37.59	37.12	38.79	37.88	37.05	37.11	37.22	37.23	37.19	37.75	37.49	37.52	36.87	36.74	37.07			37.92	
Calculated purge volume	litres																											
Base of well (OD)									36.05	36.03	36.11	36.08	35.43	36.04	36.04	36.04	36.09	36.06		36.05	36.06	36.07	36.05	36.07			36.06	
Gas Concentrations																												
Date monitored	-	16/10/2009	28/10/2009	13/11/2009	26/11/2009	08/12/2009	17/12/2009	28/01/2010	10/03/2010	07/06/2010	06/10/2010	25/01/2011	01/04/2011	21/06/2011	06/09/11	06/12/12	02/03/12	07/06/2012	06/09/12	12/12/12	12/03/13	06/06/13	04/09/13	06/12/13	09/01/14	04/02/14	06/03/14	02/04/14
Time of measurement	-	15:32	16:18	15:03	12:15	14:46	12:43	12:57	14:45	16:42	12:17		16:40	10:31	09:57	09:58	12:06	10:28	13:44	10:25	15:09	10:48	14:58	11:45	10:42	14:19	12:50	14:04
Methane	% vol	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1
Carbon Dioxide	% vol	1.9	0.1	1.4	0.7	1.1	0.7	1.1	1.6	12.2	0.1	2.6	<0.1	<0.1	15.4	<0.1	3.6	0.8	13.4	4.3	1.3	0.6	17.1	0.2	1	3.6	0.9	8.8
Oxygen	% vol	18.2	20.9	19.0	19.7	19.1	20.0	19.8	18.4	1.4	20.2	18.3	20.2	21.3	2.0	21.7	15.3	19.2	4.7	16.6	20.3	19.5	0.9	21.9	20.6	17.3	20.1	8.7
Atmospheric Pressure	mbars	1032	1010	994	972	983	1015	1015	1025	1004	997	1007	999	1000	982	995	1023	996	1009	1012	1008	1019	1010	1018	993	986	1010	1005
Gas Pressure	mbars	0.12	-0.06	0.07	0.03	0.03	0.03	0.05	0.03	0.03	+/-0.01	0.07	-0.014	0.00	<0.01	0.10	0.12	0.17	<0.01	0.03	0.22	0.09	-0.04	0.09	0.02	0.1	-0.16	-0.12
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0	<0.1	<0.1	-0.4	-0.1	<0.1	<0.1	0.1	0.2	-0.1	0.4	-0.1	0.2	<0.1	0.1	0.1
Insitu Liquid Determinations																												
pH	pH units																											
Electrical Conductivity	µS/cm																											
Dissolved Oxygen	mg/l																											
Temperature	℃																											
Comment																												



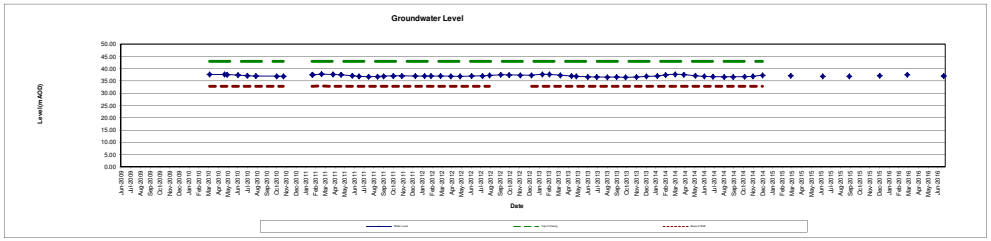


Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T36**											
Type Of Sample Required	Groundwater	08/05/14	05/06/14	02/07/14	05/08/14	03/09/14	09/10/14	04/11/14	04/12/14	11/06/15	07/12/15	24/06/16
Determinand	Units											
Water Level												
Water level to top of casing	m		8.97			9.18			8.5	Dry	8.66	9.8
Borehole depth to top of casing	m		9.97			9.98			9.97	9.97	9.92	9.98
Casing Top relative to Ordnance Datum	m		46.03			46.03			46.03	46.03	46.03	46.03
Water level relative to Ordnance Datum	m		37.06			36.85			37.53		37.37	36.23
Calculated purge volume	litres											
Base of well (OD)			36.06			36.05			36.06	36.06	36.11	36.05
Gas Concentrations												
Date monitored	-	08/05/14	05/06/14	02/07/14	05/08/14	03/09/14	09/10/14	04/11/14	04/12/14	11/06/15	07/12/15	24/06/16
Time of measurement	-	10:25	14:31	13:38	15:31	10:12	10:20	13:51	12:18	11:37	12:20	10:49
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	0.1	0.1	3.6	0.1	0.4	0.1	0.1	6.9	13.5	1.6	12.9
Oxygen	% vol	19.9	19.8	16.1	20.2	19.9	20.4	21.5	15.9	4.1	20.5	4.5
Atmospheric Pressure	mbars	996	1000	1010	1011	1020	986	989	1011	1017	1013	1007
Gas Pressure	mbars	-0.1	-0.03	0.19	-0.18	<0.01	0.07	-0.1	0.12	-0.07	-0.04	-0.02
Gas Flow Rate	l/hr	0.2	0.2	<0.1	<0.1	<0.1	<0.1	0.2	0.2	<0.1	<0.1	0.4
Insitu Liquid Determinations												
pH	pH units											
Electrical Conductivity	µS/cm											
Dissolved Oxygen	mg/l											
Temperature	ºC											
Comment												

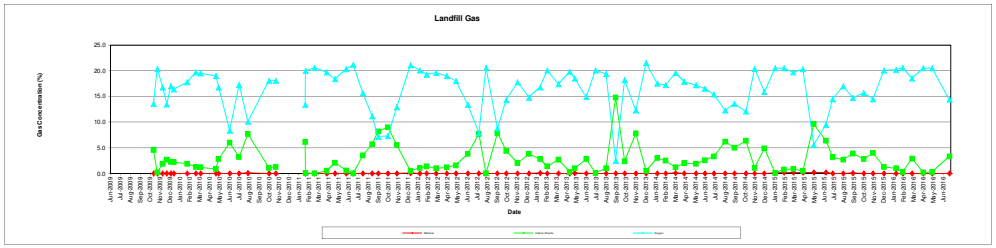
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T37																(Sept mon)			(Dec Mon)			(March Mon)				
Type Of Sample Required	Groundwater	16/10/09	28/10/09	13/11/09	26/11/09	08/12/09	17/12/09	28/01/2010	23/02/10	10/03/10	26/04/10	04/05/10	07/06/10	06/07/2010	02/08/2010	06/10/2010	27/10/2010	15/11/10	25/01/11	26/01/11	23/02/11	01/04/11	26/04/11	31/05/11	21/06/11	21/07/11
Determinand	Units																										
Water Level																											
Water level to top of casing	m									5.29	5.34	5.36	5.57	5.79	5.94	6.04	6.05		5.46	5.45	5.20	5.28	5.40	5.85	6.10	6.24
Borehole depth to top of casing	m									10.17	10.18	10.17	10.19	10.15	10.19	10.18	10.15		10.14	10.14	10.02	10.19	10.19	10.19	10.19	10.16
Casing Top relative to Ordnance Datum	m									42.99	42.99	42.99	42.99	42.99	42.99	42.99	42.99		42.99	42.99	42.99	42.99	42.99	42.99	42.99	42.99
Water level relative to Ordnance Datum	m									37.70	37.65	37.63	37.42	37.20	37.05	36.95	36.94		37.53	37.54	37.79	37.71	37.59	37.14	36.89	36.75
Calculated purge volume	litres																									
Base of well (OD)										32.82	32.81	32.82	32.80	32.84	32.80	32.81	32.84		32.85	32.85	32.97	32.80	32.80	32.80	32.80	32.83
Gas Concentrations																											
Date monitored	-	16/10/2009	28/10/2009	13/11/2009	26/11/2009	08/12/2009	17/12/2009	28/01/2010	23/02/2010	10/03/2010	26/04/2010	04/05/2010	07/06/2010	06/07/2010	02/08/2010	06/10/2010	27/10/2010		25/01/2011	26/01/2011	23/02/2011	01/04/2011	26/04/2011	31/05/2011	21/06/2011	20/07/11
Time of measurement	-	15:35	16:21	15:06	12:19	14:48	12:48	13:55	11:25	14:55	14:25	14:01	16:48	12:07	14:54	12:35	12:50			15:03	10:50	16:35	15:18	09:24	10:26	09:05
Methane	% vol	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	4.6	0.2	1.9	2.7	2.3	2.2	1.9	1.3	1.2	0.9	2.8	6	3.2	7.7	1.1	1.3		6.1	0.1	<0.1	0.5	2.1	0.6	<0.1	3.5
Oxygen	% vol	13.6	20.4	16.8	13.5	17.0	16.4	17.8	19.7	19.5	19.0	16.8	8.4	17.3	10.1	18.1	18.1		13.4	20.0	20.6	19.7	18.4	20.3	21.2	15.7
Atmospheric Pressure	mbars	1032	1010	994	973	983	1015	1015	994	1025	1013	1019	1004	1014	1011	997	1001		1007	1016	1001	999	1025	1010	1000	1006
Gas Pressure	mbars	-0.01	0	0	0.07	0.02	0.07	0.01	0.00	0.03	+/-0.01	+/-0.01	+/-0.01	+/-0.01	+/-0.01	0.03	0.03		0.02	0.05	0.8	-0.04	0.01	0	0.00	<0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0	0	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1		+/-0.1	-0.1	-0.3	0	<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																											
pH	pH units																										
Electrical Conductivity	µS/cm																										
Dissolved Oxygen	mg/l																										
Temperature	ºC																										
Comment									Lid jammed, unable to gain dip reading									Visit not undertaken due to adverse					Ok but thread worn			



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T37																													
Type Of Sample Required	Groundwater	18/08/11	06/09/11	06/10/11	02/11/11	14/12/11	12/01/12	01/02/12	02/03/12	03/04/12	02/05/12	07/06/12	11/07/12	02/08/12	06/09/12	03/10/12	07/11/12	12/12/12	15/01/13	06/02/13	12/03/13	16/04/13	01/05/13	06/06/13	04/07/13	06/08/13	04/09/13	02/10/13
Determinand	Units																													
Water Level																														
Water level to top of casing	m	6.16	6.04	5.91	5.91	5.93	5.94	5.93	5.93	6.02	6.07	5.97	5.91	5.66	5.40	5.51	5.64	5.64	5.26	5.32	5.63	5.99	6.11	6.28	6.34	6.41	6.32	6.44
Borehole depth to top of casing	m	10.13	10.13	10.15	10.18	10.13	10.12	10.15	10.16	10.14	10.15	10.15	10.17	10.14	10.15	10.18	10.14	10.15	10.16	10.13	10.15	10.16	10.15	10.15	10.13	10.16	10.16	10.15
Casing Top relative to Ordnance Datum	m	42.99	42.99	42.99	42.99	42.99	42.99	42.99	42.99	42.99	42.99	42.99	42.99	42.99	42.99	42.99	42.99	42.99	42.99	42.99	42.99	42.99	42.99	42.99	42.99	42.99	42.99	42.99
Water level relative to Ordnance Datum	m	36.83	36.95	37.08	37.08	37.06	37.05	37.06	37.06	36.97	36.92	37.02	37.08	37.33	37.59	37.48	37.35	37.35	37.73	37.67	37.36	37.00	36.88	36.71	36.65	36.58	36.67	36.55
Calculated purge volume	litres																													
Base of well (OD)		32.86	32.86	32.84	32.81	32.86	32.87	32.84	32.83	32.85	32.84	32.84	32.82	32.85				32.84	32.83	32.86	32.84	32.83	32.84	32.84	32.86	32.83	32.83	32.84
Gas Concentrations																														
Date monitored	-	18/08/11	06/09/11	06/10/11	02/11/11	14/12/12	12/01/12	01/02/12	02/03/12	03/04/12	02/05/12	07/06/2012	11/07/12	02/08/2012	06/09/12	03/10/12	07/11/12	12/12/12	15/01/13	06/02/13	12/03/13	16/04/13	01/05/13	06/06/13	04/07/13	06/08/13	04/09/13	02/10/13
Time of measurement	-	09:58	10:09	09:26	09:03	09:41	12:14	11:44	12:13	12:43	13:13	10:35	13:08	16:17	13:52	12:54	11:57	10:15	14:58	12:01	15:15	13:50	14:01	10:54	11:02	10:20	15:06	14:14
Methane	% vol	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	5.7	8.2	9.0	5.6	0.5	1.1	1.4	1.0	1.2	1.6	3.8	7.7	<0.1	7.9	4.4	2.0	3.8	2.8	1.4	2.7	0.3	1	2.8	0.1	1	14.8	2.4
Oxygen	% vol	11.2	7.2	7.3	12.9	21.1	20.1	19.3	19.6	19.0	18.0	13.4	7.9	20.6	8.8	14.3	17.8	14.8	16.8	20.1	17.4	19.8	18.5	14.9	20.1	19.4	2.5	18.2
Atmospheric Pressure	mbars	1015	982	991	999	970	1017	1037	1023	1010	1025	997	1004	1000	1009	991	1007	1012	1011	1009	1008	991	1014	1020	1002	1009	1010	1009
Gas Pressure	mbars	0.07	<0.01	0.26	0.07	-0.12	0.01	<0.01	0.14	-0.07	-0.14	0.05	0.01	-0.22	<0.01	0.34	0.29	0.05	-0.05	-0.15	0.22	-0.09	-0.23	0.07	-0.22	0.06	<0.01	0.14
Gas Flow Rate	l/hr	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	0.2	-0.1	0.2	0.1	<0.1	<0.1	0.2	0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																														
pH	pH units																													
Electrical Conductivity	µS/cm																													
Dissolved Oxygen	mg/l																													
Temperature	ºC																													
Comment												Padlock removed - key did not fit																		



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

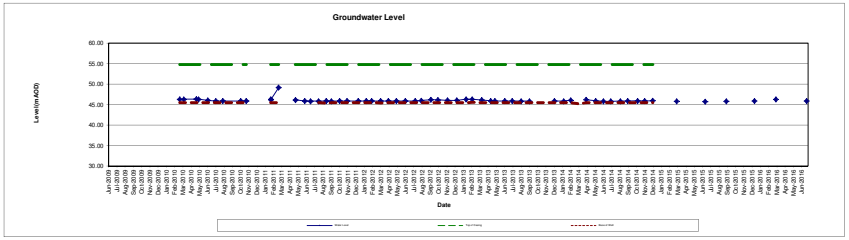
Sampling Location	**T37**																												
Type Of Sample Required	Groundwater	05/11/13	06/12/13	09/01/14	04/02/14	06/03/14	02/04/14	08/05/14	05/06/14	02/07/14	06/08/14	03/09/14	09/10/14	04/11/14	04/12/14	06/01/15	03/02/15	03/03/15	02/04/15	05/05/15	11/06/15	02/07/15	04/08/15	02/09/15	06/10/15	03/11/15	07/12/15	13/01/16
Determinand	Units																												
Water Level																													
Water level to top of casing	m	6.38	6.1	5.95	5.48	5.24	5.37	5.83	6.1	6.21	6.26	6.3	6.23	6.1	5.62			5.75			6.1			6.02			5.81	
Borehole depth to top of casing	m	10.15	10.13	10.16	10.16	10.15	10.16	10.17	10.17	10.16	10.18	10.16	10.16	10.17	10.15			10.15			10.18			10.15			10.11	
Casing Top relative to Ordnance Datum	m	42.99	42.99	42.99	42.99	42.99	42.99	42.99	42.99	42.99	42.99	42.99	42.99	42.99	42.99			42.99			42.99			42.99			42.99	
Water level relative to Ordnance Datum	m	36.61	36.89	37.04	37.51	37.75	37.62	37.16	36.89	36.78	36.73	36.69	36.76	36.89	37.37			37.24			36.89			36.97			37.18	
Calculated purge volume	litres																												
Base of well (OD)		32.84	32.86	32.83	32.83	32.84	32.83	32.82	32.82	32.83	32.81	32.83	32.83	32.82	32.84			32.84			32.81			32.84			32.88	
Gas Concentrations																													
Date monitored	-	05/11/13	06/12/13	09/01/14	04/02/14	06/03/14	02/04/14	08/05/14	05/06/14	02/07/14	06/08/14	03/09/14	09/10/14	04/11/14	04/12/14	06/01/15	03/02/15	03/03/15	02/04/15	05/05/15	11/06/15	02/07/15	04/08/15	02/09/15	06/10/15	03/11/15	07/12/15	13/01/16
Time of measurement	-	14:17	10:53	10:12	13:44	12:13	14:10	10:30	14:38	13:47	09:38	10:21	10:25	13:58	12:25	10:06	11:40	12:06	10:15	11:48	11:50	11:06	09:46	10:15	10:21	10:10	12:27	10:10	
Methane	% vol	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	0.2	0.2	0.2	0.2	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	
Carbon Dioxide	% vol	7.8	0.5	3	2.5	1.2	2	1.9	2.6	3.3	6.2	5	6.4	1.1	4.9	0.1	0.8	0.9	0.5	9.6	6.4	3.2	2.7	3.9	2.8	4	1.3	1	
Oxygen	% vol	12.3	21.5	17.5	17.2	19.6	17.9	17.2	16.5	15.4	12.3	13.6	12.1	20.4	15.9	20.5	20.5	19.7	20.3	5.6	9.5	14.5	17	14.7	15.7	14.5	20.1	20.2	
Atmospheric Pressure	mbars	985	1018	993	986	1010	1005	996	1001	1010	1005	1020	986	990	1012	1004	1009	998	1015	987	1017	1009	999	1012	994	1012	1015	1003	
Gas Pressure	mbars	0.18	-0.17	0.19	0.07	-0.12	-0.09	-0.07	-0.02	0.24	0.02	<0.01	0.11	-0.03	0.17	<0.01	-0.02	0.03	-0.02	0.13	-0.06	0.16	0.02	0.12	0.12	0.2	-0.05	-0.12	
Gas Flow Rate	l/hr	<0.1	0.2	0.2	0.2	<0.1	0.3	0.2	0.1	0.1	-0.2	<0.1	<0.1	0.4	0.2	<0.1	0.1	0.2	0.1	<0.1	<0.1	<0.1	0.2	-0.1	<0.1	<0.1	<0.1	<0.1	
Insitu Liquid Determinations																													
pH	pH units																												
Electrical Conductivity	µS/cm																												
Dissolved Oxygen	mg/l																												
Temperature	℃																												
Comment																								OK but heavy growth of nettles and gorse hindering access to sampling					

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T37**					
Type Of Sample Required	Groundwater	02/02/16	02/03/16	05/04/16	03/05/16	24/06/16
Determinand	Units					
Water Level						
Water level to top of casing	m		5.42			5.94
Borehole depth to top of casing	m		10.18			10.16
Casing Top relative to Ordnance Datum	m		42.99			42.99
Water level relative to Ordnance Datum	m		37.57			37.05
Calculated purge volume	litres					
Base of well (OD)			32.81			32.83
Gas Concentrations						
Date monitored	-	02/02/16	02/03/16	05/04/16	03/05/16	24/06/16
Time of measurement	-	10:14	10:22	08:41	09:45	10:58
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.3	2.9	0.2	0.3	3.3
Oxygen	% vol	20.6	18.5	20.5	20.5	14.4
Atmospheric Pressure	mbars	986	986	997	1010	1007
Gas Pressure	mbars	-0.11	-0.12	-0.09	-0.09	-0.05
Gas Flow Rate	l/hr	0.3	<0.1	<0.1	-0.1	0.2
Insitu Liquid Determinations						
pH	pH units					
Electrical Conductivity	µS/cm					
Dissolved Oxygen	mg/l					
Temperature	ºC					
Comment						

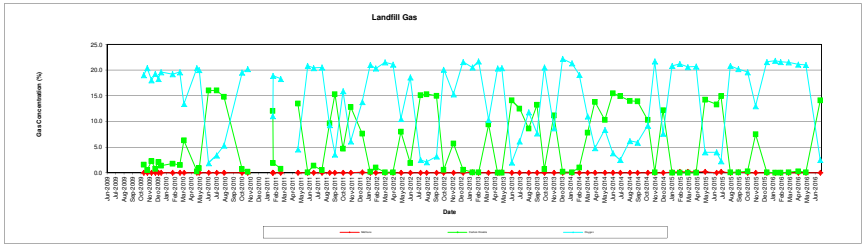
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T38																(Sept mon)			(Dec Mon)			(March Mon)				
Type Of Sample Required	Groundwater	16/10/09	28/10/09	13/11/09	26/11/09	08/12/09	17/12/09	28/01/10	23/02/10	10/03/10	26/04/2010	04/05/10	07/06/10	06/07/2010	02/08/2010	06/10/2010	27/10/2010	15/11/10	25/01/11	26/01/11	23/02/11	01/04/11	26/04/11	31/05/11	21/06/11	21/07/11
Determinand	Units																										
Water Level																											
Water level to top of casing	m								8.49	8.46	8.42	8.46	8.74	8.88	8.90	8.89	8.90		8.53	8.52	5.6		8.63	8.89	8.93	8.94
Borehole depth to top of casing	m								9.30	9.29	9.29	9.29	9.30	9.29	9.29	9.27	9.30		9.29	9.29	9.32					9.27
Casing Top relative to Ordnance Datum	m								54.78	54.78	54.78	54.78	54.78	54.78	54.78	54.78	54.78		54.78	54.78	54.78		54.78	54.78	54.78	54.78
Water level relative to Ordnance Datum	m								46.29	46.32	46.36	46.32	46.04	45.90	45.88	45.89	45.88		46.25	46.26	49.18		46.15	45.89	45.85	45.84
Calculated purge volume	litres																										
Base of well (OD)									45.48	45.49	45.49	45.49	45.48	45.49	45.49	45.51	45.48		45.49	45.49	45.46					45.51
Gas Concentrations																											
Date monitored	-	16/10/2009	28/10/2009	13/11/2009	26/11/2009	08/12/2009	17/12/2009	28/01/2010	23/02/2010	10/03/2010	26/04/2010	04/05/2010	07/06/2010	06/07/2010	02/08/2010	06/10/2010	27/10/2010		25/01/2011	26/01/2011	23/02/2011	01/04/2011	26/04/2011	31/05/2011	21/06/2011	20/07/2011
Time of measurement	-	15:38	16:25	15:14	12:25	14:59	12:56	00:57	11:45	15:00	14:17	14:08	16:54	11:16	15:04	12:53	13:00			15:45	11:15		15:04	09:11	10:19	09:16
Methane	% vol	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	1.6	0.5	2.3	0.8	2.1	1.4	1.8	1.5	6.3	0.3	0.9	16	16.0	14.8	0.7	0.2		12.02	1.9	0.8		13.5	0.1	1.4	0.5
Oxygen	% vol	19.0	20.4	18.0	19.3	18.3	19.6	19.2	19.6	13.4	20.4	20	1.9	3.4	5.3	19.5	20.2		11.06	18.9	18.3		4.6	20.8	20.4	20.5
Atmospheric Pressure	mbars	1032	1009	994	973	983	1015	1015	994	1025	1013	1019	1004	1014	1011	997	1001		1007	1016	1001		1025	1010	1000	1006
Gas Pressure	mbars	0.01	0	0.05	0.05	0.01	0.02	0.04	-0.03	0.06	0.04	-0.02	0.03	0.05	0.11	8.89	0.02		0.1	0.01	0.1		0.09	0	0.00	0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0	0	+/-0.1	-0.1	+/-0.1	+/-0.1	+/-0.1	0.2	9.27	0.2		0.11	-0.1	0.8		0.3	0.1	-0.2	<0.1
Insitu Liquid Determinations																											
pH	pH units																										
Electrical Conductivity	µS/cm																										
Dissolved Oxygen	mg/l																										
Temperature	ºC																										
Comment																		Visit not undertaken due to adverse				Padlock seized	Ok but not sealed properly			



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T38**																												
Type Of Sample Required	Groundwater	18/08/11	06/09/11	06/10/11	02/11/11	14/12/11	12/01/12	01/02/12	05/03/12	03/04/12	02/05/12	04/06/12	11/07/12	02/08/12	07/09/12	03/10/12	07/11/12	12/12/12	15/01/13	06/02/13	14/03/13	16/04/13	01/05/13	06/06/13	04/07/13	06/08/13	05/09/13	02/10/13
Determinand	Units																												
Water Level																													
Water level to top of casing	m	8.90	8.92	8.90	8.90	8.91	8.88	8.90	8.88	8.90	8.90	8.89	8.88	8.79	8.56	8.63	8.74	8.72	8.47	8.47	8.68	8.85	8.9	8.91	8.88	8.92	8.92	Dry
Borehole depth to top of casing	m	9.48	9.33	9.28	9.31	9.28	9.28	9.30	9.35	9.32	9.32	9.29	9.32	9.31	9.30	9.31	9.30	9.30	9.28	9.26	9.32	9.3	9.3	9.3	9.28	9.31	9.3	9.28
Casing Top relative to Ordnance Datum	m	54.78	54.78	54.78	54.78	54.78	54.78	54.78	54.78	54.78	54.78	54.78	54.78	54.78	54.78	54.78	54.78	54.78	54.78	54.78	54.78	54.78	54.78	54.78	54.78	54.78	54.78	54.78
Water level relative to Ordnance Datum	m	45.88	45.86	45.88	45.88	45.87	45.90	45.88	45.90	45.88	45.88	45.89	45.90	45.99	46.22	46.15	46.04	46.06	46.31	46.31	46.10	45.93	45.88	45.87	45.90	45.86	45.86	
Calculated purge volume	litres																												
Base of well (OD)		45.30	45.45	45.50	45.47	45.50	45.50	45.48	45.43	45.46	45.46	45.49	45.46	45.47	45.48	45.47	45.48	45.48	45.50	45.52	45.46	45.48	45.48	45.48	45.50	45.47	45.48	45.50
Gas Concentrations																													
Date monitored	-	18/08/11	06/09/11	06/10/11	02/11/11	14/12/12	12/01/12	01/02/12	05/03/12	03/04/12	02/05/12	04/06/2012	11/07/12	02/08/2012	07/09/12	03/10/12	07/11/12	12/12/12	15/01/13	06/02/13	14/03/13	16/04/13	01/05/13	06/06/13	04/07/13	06/08/13	05/09/13	02/10/13
Time of measurement	-	10:12	10:16	09:36	09:13	09:46	12:21	11:51	12:18	12:52	12:58	11:22	12:59	16:02	09:48	13:04	12:08	10:32	15:04	12:08	09:30	13:56	14:07	14:37	11:11	10:28	10:56	14:21
Methane	% vol	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	9.6	15.3	4.7	12.8	7.6	0.2	1	0.1	0.1	8.0	1.9	15.1	15.3	15.0	0.6	5.7	0.6	0.1	0.1	9.4	<0.1	<0.1	14.1	12.5	8.6	13.2	0.7
Oxygen	% vol	9.3	3.6	15.9	6.1	13.8	21	20.3	21.5	21.1	10.5	18.6	2.5	2.1	3.2	20.1	15.3	21.6	20.5	21.7	10.3	20.3	20.4	2	6.1	11.8	7.7	20.5
Atmospheric Pressure	mbars	1015	982	990	999	971	1017	1037	1021	1010	1024	1013	1004	1001	1013	990	1006	1012	1011	1002	1006	991	1014	1021	1003	1009	1008	1009
Gas Pressure	mbars	0.05	<0.01	0.35	0.05	<0.1	0.03	-0.03	0.20	-0.01	-0.12	0.15	-0.07	-0.28	<0.01	0.37	0.37	0.53	-0.08	-0.17	0.14	-0.12	-0.1	-0.12	0.05	0.02	0.12	0.1
Gas Flow Rate	l/hr	0.2	0.1	0.3	0.1	<0.1	-0.4	-0.1	0.1	<0.1	<0.1	0.1	0.1	0.2	0.1	<0.1	0.1	0.1	-0.1	0.1	0.1	<0.1	<0.1	0.2	0.2	0.1	0.1	0.1
Insitu Liquid Determinations																													
pH	pH units																												
Electrical Conductivity	µS/cm																												
Dissolved Oxygen	mg/l																												
Temperature	ºC																												
Comment																													



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

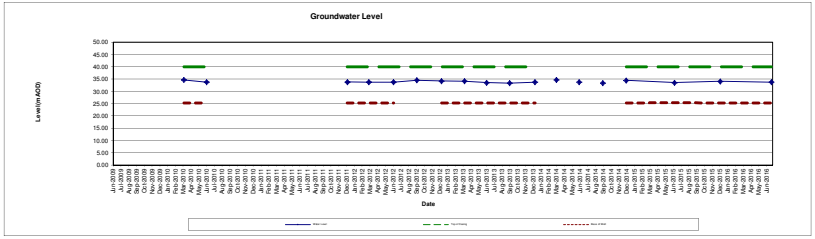
Sampling Location	**T38**																												
Type Of Sample Required	Groundwater	05/11/13	06/12/13	09/01/14	04/02/14	06/03/14	02/04/14	08/05/14	05/06/14	02/07/14	06/08/14	03/09/14	09/10/14	04/11/14	04/12/14	06/01/15	03/02/15	03/03/15	02/04/15	05/05/15	15/06/15	02/07/15	04/08/15	02/09/15	06/10/15	03/11/15	14/12/15	13/01/16
Determinand	Units																												
Water Level																													
Water level to top of casing	m	Dry	8.89	8.94	8.71	Dry	8.58	8.86	8.98	8.98	8.93	8.91	8.86	8.89	8.8			8.92			9			8.92			8.87	
Borehole depth to top of casing	m	9.3	9.28	9.31	9.31	9.6	9.3	9.3	9.3	9.31	9.31	9.3	9.28	9.31	9.29			9.3			9.32			9.29			9.31	
Casing Top relative to Ordnance Datum	m	54.78	54.78	54.78	54.78	54.78	54.78	54.78	54.78	54.78	54.78	54.78	54.78	54.78	54.78			54.78			54.78			54.78			54.78	
Water level relative to Ordnance Datum	m		45.89	45.84	46.07		46.20	45.92	45.80	45.80	45.85	45.87	45.92	45.89	45.98			45.86			45.78			45.86			45.91	
Calculated purge volume	litres																												
Base of well (OD)		45.48	45.50	45.47	45.47	45.18	45.48	45.48	45.48	45.47	45.47	45.48	45.50	45.47	45.49			45.48			45.46			45.49			45.47	
Gas Concentrations																													
Date monitored	-	05/11/13	06/12/13	09/01/14	04/02/14	06/03/14	02/04/14	08/05/14	05/06/14	02/07/14	06/08/14	03/09/14	09/10/14	04/11/14	04/12/14	06/01/15	03/02/15	03/03/15	02/04/15	05/05/15	15/06/15	02/07/15	04/08/15	02/09/15	06/10/15	03/11/15	14/12/15	13/01/16
Time of measurement	-	14:24	11:29	10:19	13:51	12:21	14:18	10:38	14:45	13:56	09:45	10:41	12:39	14:05	12:50	10:10	11:46	12:13	10:20	11:52	11:54	11:12	09:57	10:25	10:29	10:18	10:01	10:17
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	0.2	0.2	0.2	<0.1	0.2	<0.1	0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	11.2	0.2	0.1	1	7.8	13.8	10.3	15.5	14.9	14	13.9	10.3	0.1	12.2	<0.1	<0.1	<0.1	<0.1	14.2	13.3	14.9	0.1	0.1	0.3	7.5	0.1	<0.1
Oxygen	% vol	8.7	22.2	21.3	19.1	11	4.8	8.4	3.8	2.5	6.2	5.9	9.2	21.7	7.6	20.8	21.2	20.6	20.7	4	4	2.3	20.8	20.2	19.6	13	21.6	21.8
Atmospheric Pressure	mbars	985	1018	994	986	1010	1005	996	1001	1009	1005	1021	987	990	1015	1004	1009	998	1015	986	1017	1008	999	1012	994	1012	1011	1003
Gas Pressure	mbars	0.21	0.03	0.24	0.19	-0.13	-0.09	0.17	0.05	0.25	<0.01	-0.05	-0.1	-0.05	0.05	0.11	0.11	0.08	0.01	0.21	0.07	0.12	<0.01	0.17	0.1	0.24	-0.11	-0.12
Gas Flow Rate	l/hr	0.2	<0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.6	<0.1	0.2	0.1	0.1	<0.1	-0.2	-0.2	0.2	<0.1	0.2	0.1	0.3	0.1	-0.1	<0.1	0.1	<0.1	<0.1
Insitu Liquid Determinations																													
pH	pH units																												
Electrical Conductivity	µS/cm																												
Dissolved Oxygen	mg/l																												
Temperature	℃																												
Comment																													

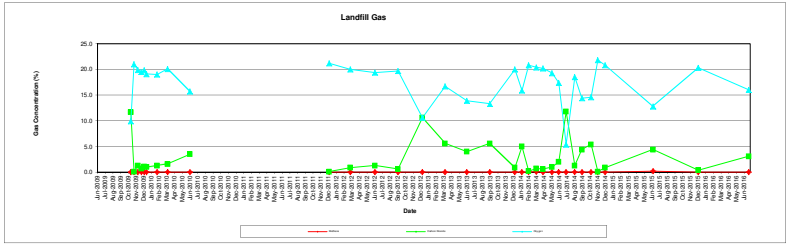
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T38**					
Type Of Sample Required	Groundwater	02/02/16	02/03/16	05/04/16	03/05/16	24/06/16
Determinand	Units					
Water Level						
Water level to top of casing	m		8.5			8.86
Borehole depth to top of casing	m		9.33			9.3
Casing Top relative to Ordnance Datum	m		54.78			54.78
Water level relative to Ordnance Datum	m		46.28			45.92
Calculated purge volume	litres					
Base of well (OD)			45.45			45.48
Gas Concentrations						
Date monitored	-	02/02/16	02/03/16	05/04/16	03/05/16	24/06/16
Time of measurement	-	10:22	10:32	08:46	09:36	11:06
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	0.1	0.3	0.1	14.1
Oxygen	% vol	21.6	21.5	21.1	21	2.5
Atmospheric Pressure	mbars	986	986	997	1010	1005
Gas Pressure	mbars	-0.07	-0.05	-0.04	-0.17	0.09
Gas Flow Rate	l/hr	0.1	-0.1	-0.2	<0.1	0.2
Insitu Liquid Determinations						
pH	pH units					
Electrical Conductivity	µS/cm					
Dissolved Oxygen	mg/l					
Temperature	ºC					
Comment						

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T39										(Sept mon)	(Dec Mon)	(March Mon)															
Type Of Sample Required	Groundwater	16/10/09	28/10/09	13/11/09	26/11/09	08/12/09	17/12/09	28/01/10	10/03/10	07/06/10	06/10/10	25/01/11	01/04/11	21/06/11	06/09/11	09/12/11	02/03/12	07/06/12	06/09/12	12/12/12	12/03/13	06/06/13	04/09/13	12/12/13	09/01/14	04/02/14	06/03/14	02/04/14
Determinand	Units																											
Water Level																												
Water level to top of casing	m								5.30	6.20						6.17	6.21	6.20	5.41	5.79	5.81	6.4	6.63	6.24			5.32	
Borehole depth to top of casing	m								14.75	14.77						14.78	15.03	14.78	14.70	14.73	14.71	14.73	14.72	14.7			14.72	
Casing Top relative to Ordnance Datum	m								40.00	40.00						40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00			40.00	
Water level relative to Ordnance Datum	m								34.70	33.80						33.83	33.79	33.80	34.59	34.21	34.19	33.60	33.37	33.76			34.68	
Calculated purge volume	litres																											
Base of well (OD)									25.25	25.25						25.25	25.25	25.25		25.27	25.29	25.27	25.28	25.30			25.28	
Gas Concentrations																												
Date monitored	-	16/10/2009	28/10/2009	13/11/2009	26/11/2009	08/12/2009	17/12/2009	28/01/2010	10/03/2010	07/06/2010						09/12/12	02/03/12	07/06/2012	06/09/12	12/12/12	12/03/13	06/06/13	04/09/13	12/12/13	09/01/14	04/02/14	06/03/14	02/04/14
Time of measurement	-	15:47	16:31	15:26	12:36	15:12	13:08	03:36	14:30	17:07						10:49	11:43	10:18	12:47	11:05	14:55	10:39	14:44	13:48	10:33	14:07	12:38	14:33
Methane	% vol	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<0.1	<0.1						<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1
Carbon Dioxide	% vol	11.7	0.1	1.3	0.7	1.1	1.0	1.3	1.6	3.5						0.1	0.9	1.3	0.6	10.6	5.6	4	5.6	0.9	5	0.2	0.7	0.6
Oxygen	% vol	9.9	21.0	19.9	19.5	19.8	19.1	19.0	20.1	15.7						21.2	20.0	19.4	19.7	10.6	16.7	13.9	13.3	20	15.9	20.8	20.4	20.2
Atmospheric Pressure	mbars	1032	1010	994	973	1998	1015	1015	1025	1004						998	1024	998	1011	1013	1009	1020	1012	1011	994	987	1011	1006
Gas Pressure	mbars	-0.04	0.4	0.09	0.01	0.04	0.01	0.04	0.01	0.03						<0.1	0.18	0.12	<0.01	0.02	-0.07	0.19	-0.03	-0.09	0.03	0.09	-0.15	0.12
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	0.03	0	+/-0.1	+/-0.1						-0.1	<0.1	0.1	<0.1	0.2	<0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1
Insitu Liquid Determinations																												
pH	pH units																											
Electrical Conductivity	µS/cm																											
Dissolved Oxygen	mg/l																											
Temperature	ºC																											
Comment											Padlock seized, no access	Padlock seized	Padlock seized	Padlocked	Padlocked			Soft sediment at base of borehole											



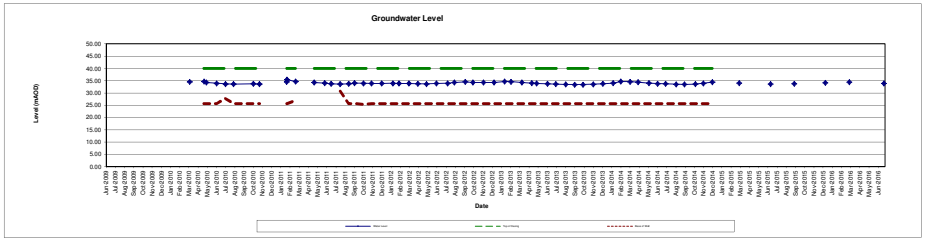


Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T39**											
Type Of Sample Required	Groundwater	08/05/14	03/06/14	02/07/14	05/08/14	03/09/14	09/10/14	04/11/14	04/12/14	11/06/15	07/12/15	24/06/16
Determinand	Units											
Water Level												
Water level to top of casing	m		6.22			6.65			5.48	6.4	5.88	6.25
Borehole depth to top of casing	m		14.67			14.72			14.73	14.57	14.70	14.73
Casing Top relative to Ordnance Datum	m		40.00			40.00			40.00	40.00	40.00	40.00
Water level relative to Ordnance Datum	m		33.78			33.35			34.52	33.60	34.12	33.75
Calculated purge volume	litres											
Base of well (OD)			25.33			25.28			25.27	25.43	25.30	25.27
Gas Concentrations												
Date monitored	-	08/05/14	03/06/14	02/07/14	05/08/14	03/09/14	09/10/14	04/11/14	04/12/14	11/06/15	07/12/15	24/06/16
Time of measurement	-	10:51	15:14	14:08	15:20	09:52	10:12	14:26	12:39	11:07	13:43	10:34
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	1	2	11.8	1.3	4.4	5.4	0.1	0.9	4.4	0.4	3.1
Oxygen	% vol	19.3	17.4	5.4	18.5	14.4	14.6	21.8	20.8	12.8	20.3	16
Atmospheric Pressure	mbars	997	1004	1009	1012	1022	987	991	1013	1018	1014	1010
Gas Pressure	mbars	0.21	0.14	0.24	-0.25	0.07	-0.02	0.21	<0.01	0.23	-0.06	-0.9
Gas Flow Rate	l/hr	<0.1	0.2	0.1	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	0.1
Insitu Liquid Determinations												
pH	pH units											
Electrical Conductivity	µS/cm											
Dissolved Oxygen	mg/l											
Temperature	ºC											
Comment												

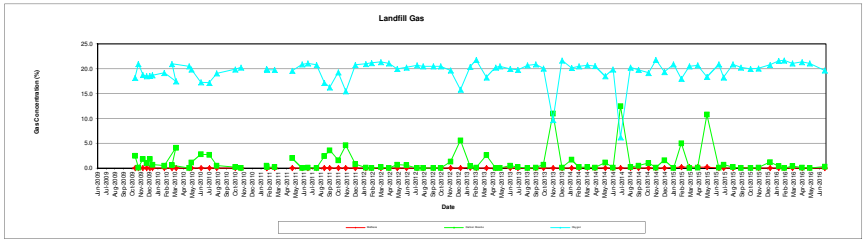
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T40																(Sept mon)			(Dec Mon)			(March Mon)				
Type Of Sample Required	Groundwater	16/10/09	28/10/09	13/11/09	26/11/09	08/12/09	17/12/09	28/01/10	10/03/10	24/02/10	26/04/10	04/05/10	07/06/10	06/07/2010	02/08/2010	06/10/2010	27/10/2010	15/11/10	25/01/11	26/01/11	23/02/11	01/04/11	26/04/11	31/05/11	21/06/11	21/07/11
Determinand	Units																										
Water Level																											
Water level to top of casing	m								5.38		5.29	5.72	6.04	6.26	6.34	6.24	6.33		5.45	4.54	5.30		5.67	5.99	6.18	6.31
Borehole depth to top of casing	m								14.38		14.33	14.30	14.28	12.21	14.29	14.36	14.35		14.28	14.30	13.06					9.25
Casing Top relative to Ordnance Datum	m								39.99		39.99	39.99	39.99	39.99	39.99	39.99	39.99		39.99	39.99	39.99		39.99	39.99	39.99	39.99
Water level relative to Ordnance Datum	m								34.61		34.70	34.27	33.95	33.73	33.65	33.75	33.66		34.54	35.45	34.69		34.32	34.00	33.81	33.68
Calculated purge volume	litres																										
Base of well (OD)									25.61		25.66	25.69	25.71	27.78	25.70	25.63	25.64		25.71	25.69	26.93					30.74
Gas Concentrations																											
Date monitored	-	16/10/2009	28/10/2009	13/11/2009	26/11/2009	08/12/2009	17/12/2009	28/01/2010	23/02/2010	10/03/2010	26/04/2010	04/05/2010	07/06/2010	06/07/2010	02/08/2010	06/10/2010	27/10/2010		25/01/2011	26/01/2011	23/02/2011	01/04/2011	26/04/2011	31/05/2011	21/06/2011	20/07/2011
Time of measurement	-	15:51	16:29	15:20	12:31	15:07	13:04	02:09	11:50	15:10	14:11	14:13	17:00	11:22	15:12	13:03	13:08			15:55	11:25		15:10	09:16	10:12	09:24
Methane	% vol	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	2.5	0.1	1.8	1.0	1.8	0.7	0.5	4.1	0.6	<0.1	1.1	2.8	2.7	0.5	0.2	<0.1		0.5	0.2	0.2		2.0	<0.1	0.1	<0.1
Oxygen	% vol	18.2	21.0	18.8	18.5	18.6	18.7	19.2	17.5	21.0	20.5	19.9	17.3	17.2	19.1	19.9	20.3		20.0	19.8	19.8		19.6	20.9	21.1	20.8
Atmospheric Pressure	mbars	1032	1010	994	973	983	1015	1015	994	1025	1013	1019	1004	1014	1011	997	1001		1007	1016	1016		1025	1010	1000	1006
Gas Pressure	mbars	-0.02	0	0.04	0.06	0	0.04	0.01	0.00	0.04	-0.01	0.01	0.04	0.03	+/-0.01	0.02	0.04		0.03	0.07	0.07		0.01	0	0	-0.01
Gas Flow Rate	l/hr	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0	0	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1		+/-0.1	0.1	+/-0.1		<0.1	<0.1	<0.1	<0.1
Insitu Liquid Determinations																											
pH	pH units																										
Electrical Conductivity	µS/cm																										
Dissolved Oxygen	mg/l																										
Temperature	ºC																										
Comment																		Visit not undertaken due to adverse				Padlock seized			Tap blocked with mud but cleared	



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T40																												
Type Of Sample Required	Groundwater	18/08/11	06/09/11	06/10/11	02/11/11	06/12/11	12/01/12	01/02/12	05/03/12	03/04/12	02/05/12	04/06/12	11/07/12	02/08/12	07/09/12	03/10/12	07/11/12	12/12/12	15/01/13	06/02/13	14/03/13	16/04/13	01/05/13	06/06/13	04/07/13	06/08/13	05/09/13	02/10/13
Determinand	Units																												
Water Level																													
Water level to top of casing	m	6.19	5.98	6.02	6.06	6.05	6.04	6.05	6.09	6.19	6.28	6.08	6.00	5.67	5.43	5.67	5.67	5.68	5.32	5.37	5.71	5.95	6.07	6.25	6.32	6.47	6.53	6.52
Borehole depth to top of casing	m	14.30	14.34	14.53	14.34	14.33	14.31	14.33	14.31	14.30	14.31	14.32	14.30	14.30	14.33	14.33	14.29	14.30	14.31	14.27	14.32	14.33	14.32	14.31	14.34	14.31	14.31	14.31
Casing Top relative to Ordnance Datum	m	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99
Water level relative to Ordnance Datum	m	33.80	34.01	33.97	33.93	33.94	33.95	33.94	33.90	33.80	33.71	33.91	33.99	34.32	34.56	34.32	34.32	34.31	34.67	34.62	34.28	34.04	33.92	33.74	33.67	33.52	33.46	33.47
Calculated purge volume	litres																												
Base of well (OD)		25.69	25.65	25.46	25.65	25.66	25.68	25.66	25.68	25.69	25.68	25.67	25.69	25.69	25.66	25.66	25.70	25.69	25.68	25.72	25.67	25.66	25.67	25.68	25.65	25.68	25.68	25.68
Gas Concentrations																													
Date monitored	-	18/08/11	06/09/11	06/10/11	02/11/11	06/12/12	12/01/12	01/02/12	05/03/12	03/04/12	02/05/12	04/06/2012	11/07/12	02/08/2012	07/09/12	03/10/12	07/11/12	12/12/12	15/01/13	06/02/13	14/03/13	16/04/13	01/05/13	06/06/13	04/07/13	06/08/13	05/09/13	02/10/13
Time of measurement	-	10:18	10:23	09:44	09:20	09:31	12:26	11:56	12:08	13:01	13:04	11:11	12:51	16:08	09:59	13:16	12:17	10:47	15:09	12:15	09:37	14:02	14:12	14:26	11:19	10:35	11:11	14:27
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	2.4	3.6	1.6	4.6	0.8	0.1	<0.1	0.2	<0.1	0.7	0.6	<0.1	<0.1	<0.1	<0.1	1.3	5.6	0.4	0.1	2.6	<0.1	<0.1	0.5	0.2	<0.1	0.1	0.7
Oxygen	% vol	17.2	16.3	19.3	15.5	20.8	21	21.2	21.4	21.1	20.0	20.3	20.7	20.5	20.5	20.5	19.7	15.8	20.4	21.8	18.3	20.3	20.5	20	19.8	20.7	20.9	20.1
Atmospheric Pressure	mbars	1015	982	991	999	995	1017	1037	1022	1009	1025	1014	1005	1001	1013	990	1006	1013	1011	1009	1007	991	1014	1022	1003	1008	1008	1009
Gas Pressure	mbars	0.01	0.01	-0.08	<0.01	<0.1	<0.01	-0.01	0.17	0.01	-0.13	-0.02	-0.05	-0.21	-0.03	0.33	0.36	-0.09	-0.06	0.05	0.03	-0.07	-0.08	-0.17	<0.01	<0.01	0.14	0.09
Gas Flow Rate	l/hr	<0.1	<0.1	-0.1	-0.1	-0.2	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	-0.1	-0.1	<0.1	N/A	-0.1	-0.1	0.2	<0.1	<0.1	<0.1
Insitu Liquid Determinations																													
pH	pH units																												
Electrical Conductivity	µS/cm																												
Dissolved Oxygen	mg/l																												
Temperature	℃																												
Comment																													



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T40**																													
Type Of Sample Required	Groundwater	05/11/13	06/12/13	09/01/14	04/02/14	06/03/14	02/04/14	08/05/14	05/06/14	02/07/14	06/08/14	03/09/14	09/10/14	04/11/14	04/12/14	06/01/15	03/02/15	03/03/15	02/04/15	05/05/15	15/06/15	02/07/15	04/08/15	02/09/15	06/10/15	03/11/15	14/12/15	13/01/16
Determinand	Units																													
Water Level																														
Water level to top of casing	m	6.41	6.2	5.98	5.32	5.36	5.57	5.92	6.13	6.22	6.43	6.46	6.32	6	5.53			5.92			6.27			6.18			5.8	
Borehole depth to top of casing	m	14.29	14.32	14.32	14.33	14.3	14.31	14.32	14.34	14.31	14.32	14.32	14.32	14.32	14.32			14.32			14.33			14.32			14.32	
Casing Top relative to Ordnance Datum	m	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99	39.99			39.99			39.99			39.99			39.99	
Water level relative to Ordnance Datum	m	33.58	33.79	34.01	34.67	34.63	34.42	34.07	33.86	33.77	33.56	33.53	33.67	33.99	34.46			34.07			33.72			33.81			34.19	
Calculated purge volume	litres																													
Base of well (OD)		25.70	25.67	25.67	25.66	25.69	25.68	25.67	25.65	25.68	25.67	25.67	25.67	25.67	25.67			25.67			25.66			25.67			25.67	
Gas Concentrations																														
Date monitored	-	05/11/13	06/12/13	09/01/14	04/02/14	06/03/14	02/04/14	08/05/14	05/06/14	02/07/14	06/08/14	03/09/14	09/10/14	04/11/14	04/12/14	06/01/15	03/02/15	03/03/15	02/04/15	05/05/15	15/06/15	02/07/15	04/08/15	02/09/15	06/10/15	03/11/15	14/12/15	13/01/16
Time of measurement	-	14:30	11:29	10:26	13:57	12:28	14:25	10:45	14:51	14:01	09:53	10:35	12:31	14:11	12:44	10:14	11:50	12:19	10:25	11:56	12:00	11:16	10:03	10:30	10:34	10:25	10:08	10:21		
Methane	% vol	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	0.2	0.2	0.2	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1		
Carbon Dioxide	% vol	11	0.1	1.7	0.2	0.2	0.1	1.1	0.1	12.5	0.2	0.5	1	0.1	1.6	<0.1	5	<0.1	0.1	10.8	0.1	0.7	0.2	<0.1	<0.1	0.1	1.2	0.4		
Oxygen	% vol	9.7	21.7	20.2	20.5	20.7	20.6	18.5	19.9	6.2	20.3	19.8	19.2	21.8	19.4	20.9	18	20.5	20.7	18.4	20.9	18.3	20.9	20.3	20	20.1	20.8	21.6		
Atmospheric Pressure	mbars	985	1021	994	986	1010	1005	996	1001	1009	1005	1020	987	990	1015	1003	1009	998	1015	986	1018	1008	999	1012	993	1011	1012	1003		
Gas Pressure	mbars	0.22	-0.04	0.17	0.27	-0.14	0.05	0.22	0.09	0.3	<0.01	-0.04	-0.07	-0.03	0.07	0.1	0.05	0.09	0.17	0.2	0.1	0.11	-0.05	0.16	0.09	0.24	-0.09	-0.12		
Gas Flow Rate	l/hr	0.1	-0.1	0.2	0.2	<0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	-0.1	<0.1	-0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	-0.1	<0.1	0.1	0.2	<0.1		
Insitu Liquid Determinations																														
pH	pH units																													
Electrical Conductivity	µS/cm																													
Dissolved Oxygen	mg/l																													
Temperature	℃																													
Comment																														

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T40**					
Type Of Sample Required	Groundwater	02/02/16	02/03/16	05/04/16	03/05/16	24/06/16
Determinand	Units					
Water Level						
Water level to top of casing	m		5.51			6.12
Borehole depth to top of casing	m		14.33			14.44
Casing Top relative to Ordnance Datum	m		39.99			39.99
Water level relative to Ordnance Datum	m		34.48			33.87
Calculated purge volume	litres					
Base of well (OD)			25.66			25.55
Gas Concentrations						
Date monitored	-	02/02/16	02/03/16	05/04/16	03/05/16	24/06/16
Time of measurement	-	10:25	10:38	08:50	09:41	11:12
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	0.4	0.1	<0.1	0.3
Oxygen	% vol	21.7	21.1	21.4	21.1	19.7
Atmospheric Pressure	mbars	986	986	997	1010	1008
Gas Pressure	mbars	-0.03	-0.03	-0.05	-0.13	0.09
Gas Flow Rate	l/hr	0.1	-0.1	-0.1	-0.1	0.1
Insitu Liquid Determinations						
pH	pH units					
Electrical Conductivity	µS/cm					
Dissolved Oxygen	mg/l					
Temperature	ºC					
Comment						

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T41**																										
Type Of Sample Required	Groundwater	00/01/00	00/01/00	00/01/00	31/10/08	28/11/08	15/04/09	15/05/09	25/08/09	23/09/09	26/11/09	21/07/11	18/08/11	06/09/11	05/10/11	03/11/11	09/12/11	06/03/12	05/04/12	03/05/12	06/06/12	10/07/12	01/08/2012	04/09/12	03/10/12	07/11/12
Determinand	Units																										
Water Level																											
Water level to top of casing	m																										
Borehole depth to top of casing	m																										
Casing Top relative to Ordnance Datum	m																										
Water level relative to Ordnance Datum	m																										
Calculated purge volume	litres																										
Base of well (OD)																											
Gas Concentrations																											
Date monitored	-																										
Time of measurement	-																										
Methane	% vol																										
Carbon Dioxide	% vol																										
Oxygen	% vol																										
Atmospheric Pressure	mbars																										
Gas Pressure	mbars																										
Gas Flow Rate	l/hr																										
Insitu Liquid Determinations																											
pH	pH units	6.5	6.9	6.8	8.81	7.8	6.8	8.4	6.7	6.7	6.7	6.7	6.6	6.5	6.6	6.6	6.6	6.8	6.7	6.7	6.9	6.7	6.8	7.0	7.0	6.6
Electrical Conductivity	µS/cm	1610	1610	1750	1715	1770	1600	1560	1710	1290	1230	1410	1340	1370	1290	1520	1370	1210	1360	1590	1400	875	975	1180	1260	1340
Dissolved Oxygen	mg/l				0.41							7.0	5.7	5.6	4.1	4.2	2.4	5.9	2.2	3.2	5.2	5.3	5.9	4.8	6.0	6.2
Ammoniacal Nitrogen	mg/l								33.1	21		11.0	11.0	10.5	12.0	12.0	9.0	9.3	10.4	10.5				12.5	11.1	9.1
Chloride	mg/l								258	177																
COD	mg/l								133	130																
Temperature	℃	11	8	14	8.78	6	6	7	10	8	8										9.5	11.7	12.4			
Comment																										

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**T41**																												
Type Of Sample Required	Groundwater	03/12/12	14/01/13	05/02/13	11/03/13	01/04/13	01/05/13	04/06/13	03/07/13	05/08/13	02/09/13	01/10/13	04/11/13	02/12/13	07/01/14	03/02/14	04/03/14	01/04/14	06/05/14	03/06/14	01/07/14	05/08/14	01/09/14	08/10/14	03/11/14	01/12/14	09/06/15	02/12/15
Determinand	Units																												
Water Level																													
Water level to top of casing	m																												
Borehole depth to top of casing	m																												
Casing Top relative to Ordnance Datum	m																												
Water level relative to Ordnance Datum	m																												
Calculated purge volume	litres																												
Base of well (OD)																													
Gas Concentrations																													
Date monitored	-																												
Time of measurement	-																												
Methane	% vol																												
Carbon Dioxide	% vol																												
Oxygen	% vol																												
Atmospheric Pressure	mbars																												
Gas Pressure	mbars																												
Gas Flow Rate	l/hr																												
Insitu Liquid Determinations																													
pH	pH units	6.8	6.6	6.5		6.7	7.0	7.4	7.0	6.5	6.6	6.6	6.8	6.8	6.7	6.7	6.5	6.5	6.6	6.3	6.7	6.7	6.6	6.9	6.5	6.7	6.8	6.6
Electrical Conductivity	µS/cm	1210	1440	1550		1140	1260	1460	1480	1410	1310	1410	1510	1430	900	930	1010	1050	1070	1360	1460	1560	1630	550	985	615	1660	1440
Dissolved Oxygen	mg/l	4.6	4.6	4.9		7.1	5.3	4.0	3.9	3.4	5.0	7.4	7.3	3.1	7.2	10.8	6.2	2.8	3.2	5.4	4.9	4.4	4	8.7	7.2	5.2		6.1
Ammoniacal Nitrogen	mg/l	4.6	8.4	8.9	6.8	7.8	8.9	10.9	11.8	14.5	16.5	11.3	9.5	8.9	8.5	8.9	9.3	9.4	10.3	11.5	11.1	12.7	12.9	10.7	10.3	9	10.6	9.7
Chloride	mg/l																												
COD	mg/l																												
Temperature	ºC																												
Comment																							Water milky coloured whereas usually clear.						

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	T41	
Type Of Sample Required	Groundwater	15/06/16
Determinand	Units	
Water Level		
Water level to top of casing	m	
Borehole depth to top of casing	m	
Casing Top relative to Ordnance Datum	m	
Water level relative to Ordnance Datum	m	
Calculated purge volume	litres	
Base of well (OD)		
Gas Concentrations		
Date monitored	-	15/06/16
Time of measurement	-	10:15
Methane	% vol	
Carbon Dioxide	% vol	
Oxygen	% vol	
Atmospheric Pressure	mbars	
Gas Pressure	mbars	
Gas Flow Rate	l/hr	
Insitu Liquid Determinations		
pH	pH units	6.6
Electrical Conductivity	µS/cm	1210
Dissolved Oxygen	mg/l	3.98
Ammoniacal Nitrogen	mg/l	10.9
Chloride	mg/l	
COD	mg/l	
Temperature	ºC	
Comment		

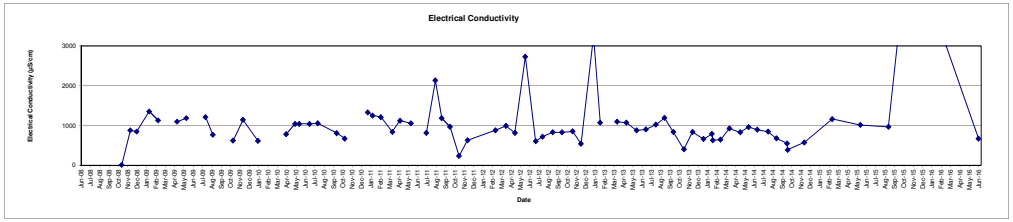
APPENDIX C:

C3 – Surface Water Monitoring Results

Surface Water
Field Monitoring Sheet

SW1

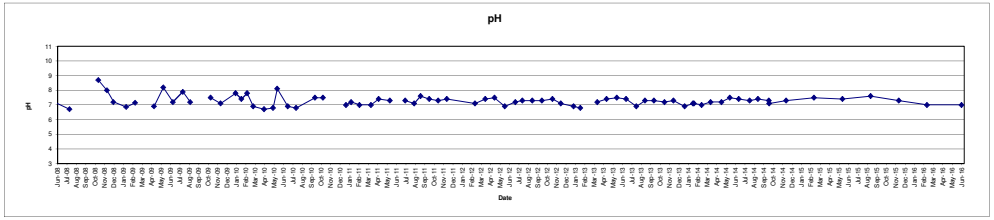
Date monitored		**24/06/04**	**05/08/04**	**26/08/04**	**29/09/04**	**28/10/04**	**18/11/04**	**16/12/04**	**27/01/05**	**10/03/05**	**22/04/05**	**18/05/05**	**04/07/05**	**18/08/05**	**16/09/05**	**04/11/05**	**14/11/05**	**13/12/05**
Determinand	Units																	
Insitu Liquid Determinations																		
pH	pH units	8.87	8.84	8.85	7.59	7.48	7.32	7.75	7.47	9.18	7.73	9.1	7.39	7.47		7.63	7.72	7.34
Electrical Conductivity	µS/cm	755	7400	7450	1198	312	994	1820	2945	1576	2946	1812	1421	2834		889	12750	864
Dissolved Oxygen	mg/l	7.23	7.28	7.25	73.2	76	74.2	62.8	63.1	65	63.1	51.2	49.6	54.1		5.64	5.54	9.45
Temperature	ºC	11.6	12	12	13.8	10.8	8.6	8	7	7.1	10	7.7	9			13.7	15.8	9.1
Time of measurement	-	11:30	16:00	13:00		13:20	16:15	17:00	14:30	16:20	02:27	10:48		7.36		14:50	14:47	11:05
Comment																		
Monthly Laboratory Determinations																		
Ammonium	mg/l	<0.3	207	5	7.6	0.3	5.1	61.7	4.5	2.1	17.5	18.9	13.8	188		5.2	738	2.9
Chloride	mg/l	30	-	221	255	54	205	414	643	307	344	191	339	972		233	3190	327
COD	mg/l	42	838	37	49	38	50	167	133	152	32	128	59	934		79	1780	51
Sulphate	mg/l		28	37														
BOD	mg/l																	
Suspended Solids (Total)	mg/l																	
Total Hydrocarbons (C6-C40)	mg/l																	



Surface Water
Field Monitoring Sheet

SW1

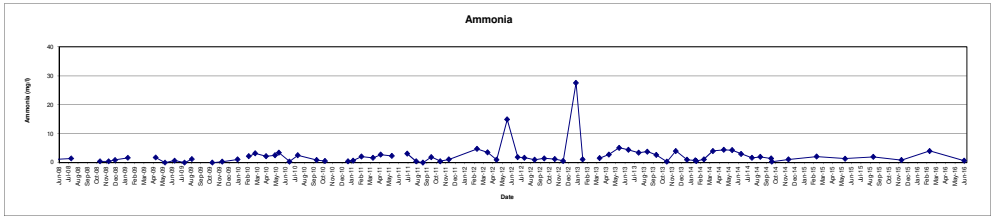
Date monitored		06/01/06	16/02/06	23/03/06	18/04/06	08/05/06	06/06/06	18/07/06	10/08/06	07/09/06	04/10/06	10/11/06	08/12/06	12/01/07	09/02/07	09/03/07	20/04/07	10/05/07	12/06/07	30/07/07	14/08/07	12/09/07	17/10/07	20/11/07	18/12/07
Determinand	Units																								
Insitu Liquid Determinations																									
pH	pH units	7.36	6.92	7.01	7.88	6.41	7.7	7.45	7.27	6.74	6.59	6.8	6.51	6.37	6.38	6.42	7.06	7.19	7.67	7.37	7.37	7.11	8.4	8.36	7.83
Electrical Conductivity	µS/cm	4420	891	1450	833	1306	19430	1910	1396	2205	1727	1427	1244	1029	2087	5650	1589	284.8	1905	1545	1546	974	1078	564	832
Dissolved Oxygen	mg/l	8.3	9.23	9.23	7.08	8.86	6.93	8.09	7.2	3.71	7.93	2.96	2.41	1.83	2.33	2.19	1.08	1.29	1.48	2.26	2.28	5.13	5.52	7.3	8.59
Temperature	℃	8.2	8.1	9.2	8.75	9.8	13.4	15.4	14.6	13.6	13.2	9.9	9.2	8	6.5	8.3	9.6	11.2	11.8	12.9	13.6	13.6	11.6	9.8	8.9
Time of measurement	-	11:20	14:30	11:30	14:00	10:25	11:20	10:00	10:45	14:05	14:30	10:35	11:30	10:50	11:00	10:30	12:10	12:00	10:00	10:30	10:40	11:30	10:10	10:30	11:00
Comment																									
Monthly Laboratory Determinations																									
Ammonium	mg/l	130	1.4	5	2.7	5.5	982	170		<0.3	13	2.6	1.1	1.8	1.7	119	2	<0.3	1.9	1	1.8	1.4	0.8	<0.3	0.8
Chloride	mg/l	962	296	416	306	327	4000	477	297	364	263	238	203	225	554	684	267	36	294	260	232	268	284	145	221
COD	mg/l	651	72	62	36	41	3830	346	40	34	80	41	46	51	58		60	71	60	47	43	63	85	58	31
Sulphate	mg/l															28.2			43			36			42
BOD	mg/l																								
Suspended Solids (Total)	mg/l																								
Total Hydrocarbons (C6-C40)	mg/l																								



Surface Water
Field Monitoring Sheet

SW1

Date monitored		**21/01/08**	**19/02/08**	**12/03/08**	**01/04/08**	**01/05/08**	**01/06/08**	**30/07/08**	**30/08/08**	**30/09/08**	**31/10/08**	**28/11/08**	**19/12/08**	**29/01/09**	**27/02/09**	**25/03/09**	**29/04/09**	**29/05/09**	**29/06/09**	**31/07/09**	**24/08/09**	**22/09/09**
Determinand	Units																					
Insitu Liquid Determinations																						
pH	pH units	7.96	7.72	7.59	7.3	7.3	7.3	6.7			8.7	8	7.2	6.86	7.15		6.9	8.2	7.2	7.9	7.2	
Electrical Conductivity	µS/cm	949	869	794	948						9.6	873	848	1353	1124		1090	1180		1210	761	
Dissolved Oxygen	mg/l	7.25	7.74	6.98		6.6	6.3	1.8			9.32	2.6	6.9	7.06	9.42		3.3	3.7	4.8		2.2	
Temperature	℃	6.7	7.4	8.2	8	9	9	11			7.89	5	6	6.69	7.63		8	9	12	12	12	
Time of measurement	-	11:15	14:05	10:30																		
Comment																						
Monthly Laboratory Determinations																						
Ammonium	mg/l	35.3	0.8	1.7		5.5	1.1	1.4			0.4	0.4	0.9	1.6			1.7	<0.3	0.7	<0.3	1.2	
Chloride	mg/l	224	230	253		138	264	280			262	222	231	367			311	323	312	343	190	
COD	mg/l	41	38	23		118	56	75			80	55	34	72			46	70	52	48	44	
Sulphate	mg/l			38			63						40						38			
BOD	mg/l																					
Suspended Solids (Total)	mg/l																					
Total Hydrocarbons (C6-C40)	mg/l																					



Surface Water
Field Monitoring Sheet

SW1

													(Sep mon)			(Dec Mon)												
Date monitored		**29/10/09**	**30/11/09**	**18/01/10**	**05/02/10**	**24/02/10**	**16/03/10**	**20/04/10**	**19/05/10**	**01/06/10**	**05/07/10**	**01/08/10**	**01/10/10**	**27/10/10**	**15/11/10**	**10/01/11**	**26/01/11**	**22/02/11**	**31/03/11**	**25/04/11**	**31/05/11**	**20/06/11**	**20/07/11**	**18/08/11**	**08/09/11**	**05/10/11**	**03/11/11**	**01/12/11**
Determinand	Units																											
Insitu Liquid Determinations												lab not insitu		lab not insitu		lab not insitu	lab not insitu	lab not insitu	lab not insitu									
pH	pH units	7.5	7.1	7.8	7.4	7.8	6.9	6.7	6.8	8.1	6.9	6.8	7.5	7.5		7	7.2	7	7	7.4	7.3		7.3	7.1	7.6	7.4	7.3	7.4
Electrical Conductivity	µS/cm	621	1140	608		5570		779	1040	1040	1040	1050	807	671		1330	1250	1210	840	1120	1050		815	2130	1180	965	230	625
Dissolved Oxygen	mg/l	6.2	7.2	6.5					3.4	5.6	6.9	6.2	6.1	6.4		5.5	9.3	10.6	10.3	10.2	9.2		4.5	9.2	8.9	9.6	8.0	10.7
Temperature	ºC	9	8	3		3		8.2	9.9	11.2	13.3	13.9	12.7	10.4		3.7	-	6.8	8.9	9	11.5	12.5	13.5	13.5	13.0	13.0	12.0	8.1
Time of measurement	-																09:40	13:00	17:40	14:53	13:42	16:35	14:28	16:15	10:33	12:25	10:10	11:40
Comment																	Temp probe broken											
Monthly Laboratory Determinations																												
Ammonium	mg/l	<0.3	0.3	1.1		2.2	3.2	2.2	2.5	3.4	0.36	2.5	0.83	0.5		0.48	0.67	2.1	1.6	2.72	2.3		3.1	0.4	<0.05	1.9	0.5	1.1
Chloride	mg/l	160	331	336	331	1950	272	244	287	290	273	264	216	172		404	368	340	190	290	240		200	800	310	240	58	140
COD	mg/l	71	341	67	73	162	32	63	61	42	27	59	43	59		96	35	41	50	41	36		56	62	44	43	90	61
Sulphate	mg/l				34		38			42			45			38.2			32						40			32
BOD	mg/l		12															3	3	5	3		3	8	7	4	11	4
Suspended Solids (Total)	mg/l		422	36	28	272	25	26	11	21	13	19	22	51		268	15	40	35	15	25		<10	45	12	20	300	15
Total Hydrocarbons (C6-C40)	mg/l																											

Surface Water
Field Monitoring Sheet

SW1

Date monitored		**01/03/12**	**04/04/12**	**03/05/12**	**06/06/12**	**10/07/12**	**01/08/12**	**03/09/12**	**04/10/12**	**07/11/12**	**04/12/12**	**14/01/13**	**05/02/13**	**11/03/13**	**01/04/13**	**01/05/13**	**03/06/13**	**03/07/13**	**05/08/13**	**02/09/13**	**01/10/13**	**04/11/13**	**02/12/13**	**07/01/14**	**03/02/14**	**06/02/14**	**03/03/14**	**01/04/14**
Determinand	Units																										
Insitu Liquid Determinations																											
pH	pH units	7.1	7.4	7.5	6.9	7.2	7.3	7.3	7.3	7.4	7.1	6.9	6.8		7.2	7.4	7.5	7.4	6.9	7.3	7.3	7.2	7.3	6.9	7.1	7.1	7	7.2
Electrical Conductivity	µS/cm	880	990	815	2730	605	720	830	825	850	540	3250	1070		1090	1070	875	900	1020	1190	835	400	835	660	785	630	640	925
Dissolved Oxygen	mg/l	10.5	10.6	11.0	8.7	9.7	9.4	9.5	9.8	10.8	12.8	12.5	7.4		10.9	10.3	8.7	7.8	9.2	7.6	9.7	12.3	7.0	12.8	12.4	11	10.9	11.06
Temperature	ºC	7.3	7.6	9.5	11.2	12.3	13.3	14.5	10.2	9.3	5.4	5.0	5.1	5.6	6.1	9.1	11.7	14.2	14.6	18.1	13.6	8.7	7.90	7.7	7.4	7.8	7.9	8.4
Time of measurement	-	09:20	12:10	15:50	09:40	14:50	10:15	10:15	10:12	13:30	10:29	10:00	09:50	10:07	09:52	10:00	10:10	10:00	09:55	11:30	13:40	09:55	10:10	09:50	10:05	14:00	10:22	10:15
Comment																									Solvent odour present. Stones covered in red/orange substance. Water level high with oil on surface.	Solvent odour present. Stones covered in red/orange substance. Water level was high with oil on surface	Solvent odour present. Stones covered in red/orange substance. Water level high.	Solvent odour present. Stones covered in red/orange substance. Water level low
Monthly Laboratory Determinations																												
Ammonium	mg/l	4.7	3.5	1.0	14.9	1.8	1.7	1.0	1.5	1.2	0.6	27.6	1.1		1.5	2.8	5.1	4.4	3.4	3.8	2.6	0.3	4.0	1.0	0.75	0.49	1.12	4
Chloride	mg/l	230	270	220	1100	170	180	200	200	210	150	1100	328		310	280	230	210	290	285	250	97	230	190	200	160	160	230
COD	mg/l		54	37	80	53	42	42	36	47	44	59	37		31	<20	27	33	39	30	34	35	29	37	30	39	38	35
Sulphate	mg/l	39			150			41			17						34			39			35			31	28	
BOD	mg/l	7	9	4	24	3	2	<1	6	2	3	5	5		2	6	14	11	5	3	7	2	6	2	< 2	2	3	10
Suspended Solids (Total)	mg/l	60	80	<10	50	30	15	12	15	40	110	110	20		10	40	10	50	55	15	20	30	25	<10	< 10	15	35	10
Total Hydrocarbons (C6-C40)	mg/l					<0.04	0.103		0.068	<0.02						<0.01			0.022	0.055	0.052							

Surface Water
Field Monitoring Sheet

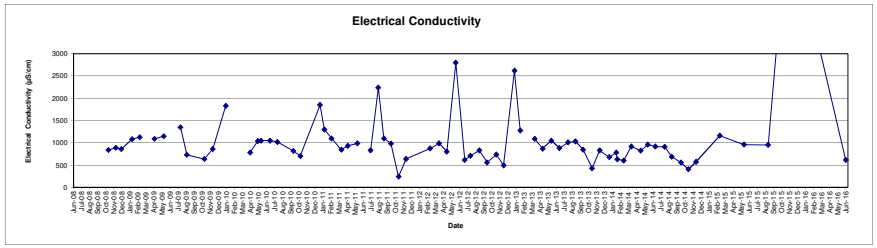
SW1

Date monitored		**06/05/14**	**02/06/14**	**01/07/14**	**05/08/14**	**01/09/14**	**06/10/14**	**08/10/14**	**01/12/14**	**02/03/15**	**01/06/15**	**01/09/15**	**01/12/15**	**01/03/16**	**20/06/16**
Determinand	Units														
Insitu Liquid Determinations															
pH	pH units	7.2	7.5	7.4	7.3	7.4	7.3	7.1	7.3	7.5	7.4	7.6	7.3	7	7
Electrical Conductivity	µS/cm	830	960	890	845	675	550	390	575	1160	1010	965	7500	3130	665
Dissolved Oxygen	mg/l	9.7	9.8	9.1	8.8	9.1	9.4	7.9	10.3	10.64	10.46	9.6	11.4	11.5	9.43
Temperature	℃	10.3	12.7	14.1	14.7	15.5	12.1	10.3	9.6	6.9	11	13	9.3	7.9	12.9
Time of measurement	-	10:20	10:05	12:05	09:32	10:35	09:45	09:50	10:25	10:10	11:25	10:35	11:40	10:10	10:10
Comment		No solvent odour present. Stones still covered in red/orange substance with green algae now present. Water level low, moving slowly.	No solvent odour present. Stones still covered in red/orange substance. Water level low, moving slowly.	No solvent odour present. Stones still covered in red/orange substance. Water level medium, moving slowly.	Milky appearance to water. Faint hydrocarbon odour. Water level medium, moving slowly.	Orange colour on the burn bed almost gone. Water level medium moving quite fast. No odour	Water had an orange tinge colour. Water level medium moving quite fast. No odour	Water was very murky and the water level was high moving quite fast. No odour	Water was very murky and the water level was high moving quite fast. Weak solvent smell detected.	Water was slow moving and orange in colour. No odour detected.	Average water level. Murky colour and slow moving with orange coloured stones	Orange staining. Even flow. Water level higher than normal.	Water level very high, Murky in colour and moving very fast.	Very orange in colour and cloudy. Orange stain all over burn bed. Water flow was average.	Slow flow, very murky, lots of orange staining,hydrocarbon smell
Monthly Laboratory Determinations															
Ammonium	mg/l	4.4	4.3	3.0	1.7	1.95	1.4	0.33	1.04	2.05	1.34	1.92	0.84	4	0.66
Chloride	mg/l	200	260	230	210	150	150	110	150	310	220	220	2200	864	160
COD	mg/l	50	29	26	30	35	48	72	46	47	30	36	100	49	49
Sulphate	mg/l		40			35			35	39	34	35	31	47	37
BOD	mg/l	22	8	5	2	4	3	10	3	7	5	<2	11	8	2
Suspended Solids (Total)	mg/l	15	15	20	370	30	< 10	120	10	45	15	<10	230	40	
Total Hydrocarbons (C6-C40)	mg/l			0.047	0.045										

Surface Water
Field Monitoring Sheet

SW2

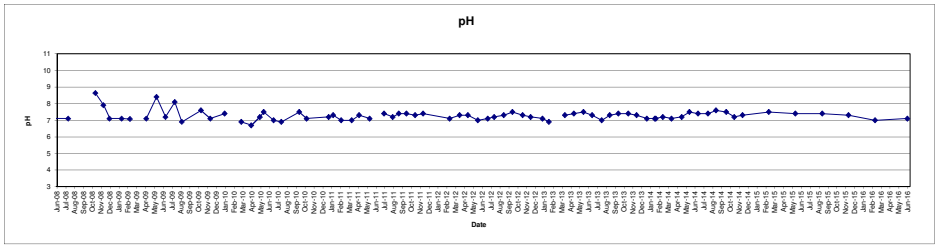
Date monitored		**24/06/04**	**05/08/04**	**26/08/04**	**29/09/04**	**28/10/04**	**18/11/04**	**16/12/04**	**27/01/05**	**10/03/05**	**22/04/05**	**18/05/05**	**04/07/05**	**18/08/05**	**16/09/05**	**04/11/05**	**14/11/05**	**13/12/05**
Determinand	Units																	
Insitu Liquid Determinations																		
pH	pH units	8.86	8.83	8.86	7.57	7.75	7.82	7.7	7.74	7.6	7.72	9.9	7.46	7.61		7.68	7.75	7.32
Electrical Conductivity	µS/cm	703	7220	7300	1191	241.8	1037	1191	1050 us	1318	1050	1192	1213	1060		906	6130	902
Dissolved Oxygen	mg/l	7.88	7.52	7.49	72.2	81.3	51.3	52.1	38.3	61.3	36.2	46.1	47.1	41.2		6.63	6.16	9.54
Temperature	ºC	11.1	11.9	11.9	13.7	11.2	7.6	7.8	7.1	7.4	10	6.8	9			12.9	11.5	9.1
Time of measurement	-	11:20	16:20	13:10		13:10	16:00	15:45	14:45	16:00	3.10pm	09:36		07:40		15:05	15:03	11:35
Comment																		
Monthly Laboratory Determinations																		
Ammonium	mg/l	<0.3	19.4	20	7.4	0.7	48.5	13.9	16	3.8	16.2	3.4	13.7	196		10.4	72.3	5.4
Chloride	mg/l	33	-	58	1020	31	81	223	153	275	282	94	331	1010		235	480	280
COD	mg/l	42	1180	95	51	23	223	58	273	246	30	77	58	958		98	263	63
Sulphate	mg/l	-	42	62														
BOD	mg/l																	
Suspended Solids (Total)	mg/l																	
Total Hydrocarbons (C6-C40)	mg/l																	



Surface Water
Field Monitoring Sheet

SW2

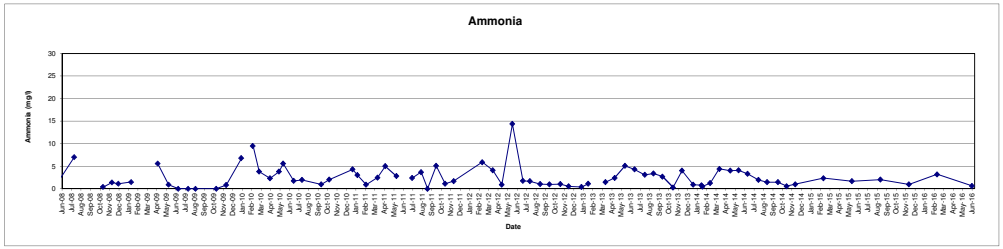
Date monitored		**06/01/06**	**16/02/06**	**23/03/06**	**18/04/06**	**08/05/06**	**06/06/06**	**18/07/06**	**10/08/06**	**07/09/06**	**04/10/06**	**10/11/06**	**08/12/06**	**12/01/07**	**09/02/07**	**09/03/07**	**20/04/07**	**10/05/07**	**12/06/07**	**30/07/07**	**14/08/07**	**12/09/07**	**17/10/07**	**20/11/07**	**18/12/07**	**21/01/08**	**19/02/08**	**12/03/08**
Determinand	Units																											
Insitu Liquid Determinations																												
pH	pH units	7.39	5.07	6.02	7.45	6.57	7.68	7.85	6.83	6.7	6.56	6.74	6.6	6.36	6.38	6.5	7.16	7.23	7.55	7.45	7.37	7.16	8.16	8.26	7.78	7.7	7.69	7.32
Electrical Conductivity	µS/cm	2760	910	1332	905	1221	5940	9140	1046	1877	2194	1264	1501	1481	3430	5860	1585	280.5	1772	1098	1546	965	987	513	827	849	847	723
Dissolved Oxygen	mg/l	2.01	0	0	0	0	6.68	0	0	3.09	5.59	2.52	2.26	1.54	2.37	2.1	0.98	1.16	1.31	2.15	2.28	4.38	5.37	7.9	8.38	5.91	7.53	6.75
Temperature	ºC	8.3	8	8.9	8.8	10.4	12.2	16.6	15.2	14.1	12.9	9.8	9	7.9	6.5	7.9	9.7	11.2	12.1	13.2	13.6	13.6	10.9	9.6	8.4	6.7	7.2	8.1
Time of measurement	-	11:30	14:37	12:00	14:25	10:35	11:35	10:17	11:00	14:25	14:45	10:45	11:45	11:00	11:10	10:45	12:20	12:20	10:15	10:52	10:55	11:50	10:30	10:40	11:15	11:25	14:15	10:40
Comment																												
Monthly Laboratory Determinations																												
Ammonium	mg/l	76	1.7	76.4	7	27.2	13	626	26	9.4	26	5.7	3.6	6.6	2.3	1.93	4.6	<0.3	3.3	2	1.8	1.9	2.5	<0.3	0.9	21.1	1.4	2.3
Chloride	mg/l	653	295	700	275	64	495	1750	110	288	307	254	199	237	673	672	253	39	283	255	232	268	265	134	226	200	214	254
COD	mg/l	308	73	445	114	536	311	2550	856	114	202	52	57	58	59		53	48	58	32	43	38	35	70	30	38	46	49
Sulphate	mg/l															31.7			45			39			40			54
BOD	mg/l																											
Suspended Solids (Total)	mg/l																											
Total Hydrocarbons (C6-C40)	mg/l																											



Surface Water
Field Monitoring Sheet

SW2

Date monitored		**01/04/08**	**01/05/08**	**01/06/08**	**30/07/08**	**30/08/08**	**30/09/08**	**31/10/08**	**28/11/08**	**19/12/08**	**29/01/09**	**27/02/09**	**25/03/09**	**24/04/09**	**29/05/09**	**29/06/09**	**31/07/09**	**24/08/09**	**29/10/09**	**30/11/09**	**18/01/10**	**05/02/10**	**24/02/10**	**16/03/10**	**20/04/10**	**19/05/10**	**01/06/10**	**05/07/10**
Determinand	Units																											
Insitu Liquid Determinations																												
pH	pH units	7.1	7.1	7.1	7.1			8.64	7.9	7.1	7.1	7.08		7.1	8.4	7.2	8.1	6.9	7.6	7.1	7.4			6.9	6.7	7.2	7.5	7
Electrical Conductivity	µS/cm	940						836	891	858	1081	1128		1090	1150		1350	729	637	862	1830				778	1040	1050	1050
Dissolved Oxygen	mg/l		5	5.7	3.8			8.58	2.4	6	6.63	8.86		3	3.7	2.9	5.8	2	5.3	6.4	7.5					3.8	5.5	6.5
Temperature	ºC	8	10	10	12			7.98	5	6	6.69	7.55		8	10	12	12	12	9	8	3		3		8.1	10.3	11.4	13.6
Time of measurement	-																											
Comment																												
Monthly Laboratory Determinations																												
Ammonium	mg/l		6.3	0.8	7			0.4	1.4	1.1	1.5			5.6	0.9	<0.3	<0.3	<0.3	<0.3	0.8	6.8		9.5	3.8	2.3	3.8	5.6	1.72
Chloride	mg/l		143	250	277			245	228	237	269			300	316	302	391	186	166	231	334	336	3360	268	242	271	276	271
COD	mg/l		97	43	100			71	54	35	77			53	67	58	51	70	67	496	64	75	250	30	61	55	55	30
Sulphate	mg/l			63						41						40						34		39			43	
BOD	mg/l																			18								
Suspended Solids (Total)	mg/l																			1600	28	26	334	19	20	19	22	12
Total Hydrocarbons (C6-C40)	mg/l																											



Surface Water
Field Monitoring Sheet

SW2

			(Sep mon)		(Dec Mon)																								
Date monitored		**01/08/10**	**01/10/10**	**27/10/10**	**10/01/11**	**26/01/11**	**22/02/11**	**31/03/11**	**25/04/11**	**31/05/11**	**20/06/11**	**20/07/11**	**18/08/11**	**08/09/11**	**05/10/11**	**03/11/11**	**01/12/11**	**01/03/12**	**04/04/12**	**03/05/12**	**06/06/12**	**10/07/12**	**01/08/12**	**03/09/12**	**03/10/12**	**07/11/12**	**04/12/12**	**14/01/13**
Determinand	Units																											
Insitu Liquid Determinations				lab results	lab not insitu	lab not insitu	lab not insitu																					
pH	pH units	6.9	7.5	7.1	7.2	7.3	7	7	7.3	7.1		7.4	7.2	7.4	7.4	7.3	7.4	7.1	7.3	7.3	7.0	7.1	7.2	7.3	7.5	7.3	7.2	7.1
Electrical Conductivity	µS/cm	1020	814	704	1850	1300	1100	845	935	990		835	2240	1100	985	240	640	875	990	800	2800	615	710	830	560	735	495	2620
Dissolved Oxygen	mg/l	7.6	6.1	6.9	8.3	7.6	10.9	10	9.7	9.2		4.0	8.9	8.6	9.2	7.9	10.7	10.6	10.8	10.9	8.5	9.8	9.8	9.7	10.2	10.9	13.5	12.1
Temperature	ºC	14.1	12.6	10.4	3.7	-	6.6	8.9	9	12	12.5	13.5	14.0	13.0	14.0	12.0	8.1	7.5	7.6	9.5	11.2	12.1	13.3	13.8	10.6	9.1	4.6	4.9
Time of measurement	-					09:30	13:10	17:55	14:59	13:34	16:25	14:25	16:00	10:42	12:16	10:20	11:50	09:31	12:15	15:55	09:50	14:55	10:05	10:25	10:04	13:25	10:19	10:05
Comment						Temp probe broken																						
Monthly Laboratory Determinations																												
Ammonium	mg/l	1.96	0.98	2.04	4.29	3	0.88	2.5	5	2.8		2.4	3.7	<0.10	5.1	1.1	1.7	5.9	4.1	0.9	14.4	1.7	1.7	1.0	0.9	1.0	0.5	0.4
Chloride	mg/l	268	218	174	540	376	320	190	220	230		190	730	290	250	49	140	220	270	220	1000	170	180	200	110	180	120	850
COD	mg/l	58	52	76	41	43	34	51	49	35		55	67	39	59	79	58		59	34	78	47	39	45	65	31	47	63
Sulphate	mg/l		33.4		62.6			34						40			33	39			140			41			22	
BOD	mg/l						1	3	7	7		3	9	7	6	11	4	8	11	3	19	5	1	<1	5	3	2	5
Suspended Solids (Total)	mg/l	19	21	71	27	17	20	25	20	30		<10	60	12	30	220	60	70	60	<10	55	28	15	9	380	20	430	170
Total Hydrocarbons (C6-C40)	mg/l																					<0.40	0.109		0.125	<0.02		

Surface Water
Field Monitoring Sheet

SW2

Date monitored		**05/02/13**	**11/03/13**	**01/04/13**	**01/05/13**	**03/06/13**	**03/07/13**	**05/08/13**	**02/09/13**	**01/10/13**	**04/11/13**	**02/12/13**	**07/01/14**	**03/02/14**	**06/02/14**	**03/03/14**	**01/04/14**	**06/05/14**	**02/06/14**	**01/07/14**	**05/08/14**	**01/09/14**	**06/10/14**	**03/11/14**	**01/12/14**	**02/03/15**	**01/06/15**	**01/09/15**
Determinand	Units																											
Insitu Liquid Determinations																												
pH	pH units	6.9		7.3	7.4	7.5	7.3	7.0	7.3	7.4	7.4	7.3	7.1	7.1	7.1	7.2	7.1	7.2	7.5	7.4	7.4	7.6	7.5	7.2	7.3	7.5	7.4	7.4
Electrical Conductivity	µS/cm	1280		1090	870	1050	880	1010	1030	845	430	830	680	780	630	605	920	825	960	915	910	685	555	405	570	1160	960	955
Dissolved Oxygen	mg/l	11.6		11.4	10.3	8.9	9.7	8.6	7.1	8.7	12.3	11.2	13.3	13.1	11	11.6	10.66	9.4	9.5	8.9	9.6	9.4	8.5	9	10.5	11.13	10.63	9.2
Temperature	ºC	5.6	5.3	6.4	9.4	11.8	13.9	14.5	15.6	13.7	8.4	7.60	7.6	7.3	7.9	7.4	8.4	10.5	12.7	14.9	14.4	15.6	12	10.3	9.7	6.7	10.7	13.3
Time of measurement	-	09:55	10:15	09:55	10:05	10:05	10:05	10:00	11:45	13:50	10:00	10:00	09:55	10:00	14:12	10:25	10:05	10:36	10:15	12:00	09:29	10:45	09:50	09:55	10:40	10:10	11:35	10:25
Comment														Solvent odour present. Stones covered in red/orange substance. Water level high with oil on surface.	Solvent odour present. Stones covered in red/orange substance. Water Level was high with oil on surface.	Solvent odour present. Stones covered in red/orange substance. Water level high.	Solvent odour present. Stones covered in red/orange substance. Water level low.	No solvent odour present. Stones still covered in red/orange substance with green algae now present. Water level low, moving slowly.	No solvent odour present. Stones still covered in red/orange substance. Water level low, moving slowly.	No solvent odour present. Stones still covered in red/orange substance. Water level medium, moving slowly.	Milky appearance to water. No hydrocarbon odour. Water level medium, moving slowly.	Orange colour on the burn bed almost gone. Water level medium moving quite fast. No odour	Water had an orange tinge colour. Water level medium movind quite fast. No odour	Water was very murky and the water level was high moving quite fast. No odour	Water was very murky and the water level was high moving quite fast. Weak solvent smell detected.	Water was murky and slow moving. No odour detected.	Average water level, Murky colour and slow moving.	Orange staining. Even flow. Water level higher than normal.
Monthly Laboratory Determinations																												
Ammonium	mg/l	1.1		1.5	2.4	5.1	4.3	3.1	3.4	2.7	0.3	4.0	0.9	0.78	0.49	1.26	4.4	4	4.1	3.3	2.0	1.45	1.46	0.57	0.99	2.34	1.68	2.05
Chloride	mg/l	412		290	220	300	210	280	286	240	84	230	180	200	150	140	230	210	260	240	240	150	150	120	150	300	220	230
COD	mg/l	33		27	<20	30	39	26	26	24	43	35	38	30	41	44	37	47	27	25	25	46	54	63	47	43	30	38
Sulphate	mg/l					41			39			35			30	31			40			56			37	41	34	35
BOD	mg/l	3		<2	6	16	9	4	3	5	2	7	2	2	2	3	7	21	7	5	3	3	3	11	3	8	6	3
Suspended Solids (Total)	mg/l	15		<10	20	15	30	15	15	15	30	25	10	< 10	< 10	25	10	10	20	15	40	25	< 10	110	< 10	45	20	15
Total Hydrocarbons (C6-C40)	mg/l				<0.01			0.019	0.065	0.055										0.052	0.166							

Surface Water
Field Monitoring Sheet

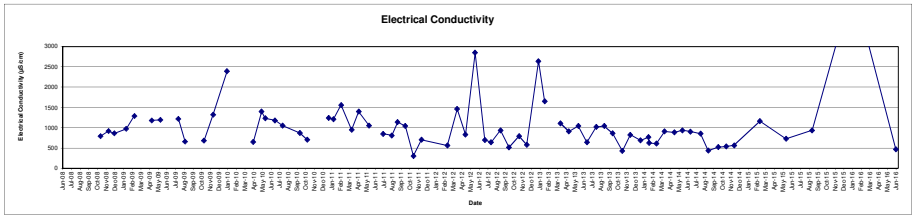
SW2

Date monitored		**01/12/15**	**01/03/16**	**20/06/16**
Determinand	Units			
Insitu Liquid Determinations				
pH	pH units	7.3	7	7.1
Electrical Conductivity	µS/cm	7240	3430	615
Dissolved Oxygen	mg/l	12	10.65	10.04
Temperature	ºC	9.3	7.8	12.7
Time of measurement	-	11:30	10:15	10:15
Comment		Water level very high, Murky in colour and moving very fast.	Orange in colour and very cloudy. Water flow was average.	Slow flow, very murky, lots of orange staining,hydrocarbon smell
Monthly Laboratory Determinations				
Ammonium	mg/l	0.97	3.2	0.65
Chloride	mg/l	2200	941	140
COD	mg/l	120	42	54
Sulphate	mg/l	34	49	29
BOD	mg/l	13	9	3
Suspended Solids (Total)	mg/l	320	25	
Total Hydrocarbons (C6-C40)	mg/l			

Surface Water
Field Monitoring Sheet

SW3

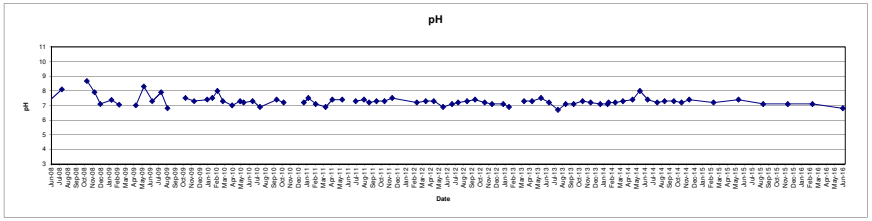
Date monitored		**24/06/04**	**05/08/04**	**26/08/04**	**29/09/04**	**28/10/04**	**18/11/04**	**16/12/04**	**27/01/05**	**10/03/05**	**22/04/05**	**18/05/05**	**04/07/05**	**18/08/05**		**04/11/05**	**14/11/05**	**13/12/05**
Determinand	Units																	
Insitu Liquid Determinations																		
pH		8.23	8.21	8.22	7.67	7.87	7.63	7.95	7.71	7.49	7.7	10	7.95	7.82		7.58	7.63	7.53
Electrical Conductivity	µS/cm	733	7330	7328	1366	304	1269	7060	4430	1555	4330	7210	7360	4400		1297	699	2161
Dissolved Oxygen	mg/l	8.99	8.95	7.9	65.6	78.9	60.1	42.8	41.9	52.8	36.2	39.6	36.4	39.6		4.67	6.64	6.72
Temperature	ºC	11.2	12.2	11.7	12.8	10.6	6	7	7.4	8.4	10	7.9	9			12.9	27.2	8.6
Time of measurement	-	10:50	16:15	13:30		12:40	15:45	15:30	15:00	15:30	16:00	04:48		07:51		15:16	15:28	11:53
Comment																		
Monthly Laboratory Determinations																		
Ammonium	mg/l	<0.3	23.8	3.4	10.8	0.3	16.7	346	115	169		<0.3	16.9	65.1		38.7	9.1	62.9
Chloride	mg/l	21	-	186	259	31	246	1260	823	322		69	355	504		318	141	463
COD	mg/l	33	50	29	42	72	67	1200	610	71		76	77	255		144	152	213
Sulphate	mg/l	-	39	33														
BOD	mg/l																	
Suspended Solids	mg/l																	
Total Hydrocarbons (C6-C40)	mg/l																	



Surface Water
Field Monitoring Sheet

SW3

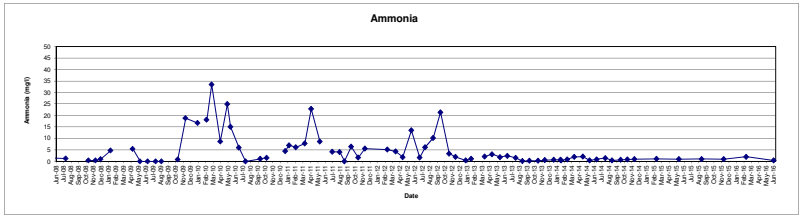
Date monitored		**06/01/06**	**16/02/06**	**23/03/06**	**18/04/06**	**08/05/06**	**06/06/06**	**18/07/06**	**10/08/06**	**07/09/06**	**04/10/06**	**10/11/06**	**08/12/06**	**12/01/07**	**09/02/07**	**09/03/07**	**20/04/07**	**10/05/07**	**12/06/07**	**30/07/07**	**14/08/07**	**13/09/07**	**17/10/07**	**20/11/07**	**19/12/07**	**21/01/08**	**19/02/08**	**12/03/08**
Determinand	Units																										
Insitu Liquid Determinations																											
pH		7.46	7.25	7.14	7.01	6.69	7.67	7.77	6.78	6.66	6.54	6.82	6.61	6.41	6.49	6.46	7.19	7.14	7.43	7.41	6.76	7.75	8.05	7.82	7.32	7.78	7.74	7.45
Electrical Conductivity	µS/cm	2480	886	2345	1170	1273	1140	1097	1836	3060	4790	1387	3810	1388	3850	9870	1963	424	234	1430	1506	1047	697	347	303	844	628	714
Dissolved Oxygen	mg/l	6.85	5.6	6.24	3.91	4.92	3.82	1.77	1.78	0.2	2.99	2.35	3.09	1.82	1.78	1.28	0.99	1.1	1.7	2.08	1.36	3.23	3.1	7.16	7.92	6.77	7.12	6.64
Temperature	ºC	7.7	8.8	9.3	12.1	13.5	16.8	15.5	13.7	14.9	13.4	9.1	8.4	8.6	6.4	8.4	10.7	11.6	15.1	14.2	15	14.2	8.6	9.2	8.2	6.2	7	8.1
Time of measurement	-	11:44	14:50	12:30	14:45	11:05	11:50	10:57	11:15	15:18	15:00	11:00	14:40	12:15	12:55	15:50	14:50	13:25	16:25	12:20	13:06	11:12	11:30	10:55	10:45	13:35	15:15	12:30
Comment																												
Monthly Laboratory Determinations																												
Ammonium	mg/l	38.9	0.9	29.7	16.2	12	17.4	16.4	14	21.3	119	3.9	260	3	11	333	16.3	2.4	11	1.8	3.4	2.7	1.4	<0.3	0.7	14.7	6.2	10
Chloride	mg/l	516	323	478	346	306	330	232	348	507	668	219	936	227	743	999	305	52	296	253	263	280	263	79	207	205	225	292
COD	mg/l	164	63	160	85	32	65	52	45	78	412	43	922	56	103		96	66	64	35	42	24	40	58	26	31	64	76
Sulphate	mg/l															<5			44			38			36			40
BOD	mg/l																											
Suspended Solids	mg/l																											
Total Hydrocarbons (C6-C40)	mg/l																											



Surface Water
Field Monitoring Sheet

SW3

Date monitored		**01/04/08**	**01/05/08**	**01/06/08**	**30/07/08**	**30/08/08**	**30/09/08**	**31/10/08**	**28/11/08**	**19/12/08**	**29/01/09**	**27/02/09**	**25/03/09**	**29/04/09**	**29/05/09**	**29/06/09**	**31/07/09**	**24/08/09**	**22/09/09**	**29/10/09**	**30/11/09**	**18/01/10**	**05/02/10**	**24/02/10**	**16/03/10**	**20/04/10**	**19/05/10**	**01/06/10**
Determinand	Units																										
Insitu Liquid Determinations																											
pH		7	7.1	7.1	8.1			8.66	7.9	7.1	7.37	7.05		7	8.3	7.3	7.9	6.8		7.5	7.3	7.4	7.5	8	7.3	7	7.3	7.2
Electrical Conductivity	µS/cm	972						791	916	859	972	1290		1180	1190		1220	655		681	1320	2390				646	1400	1230
Dissolved Oxygen	mg/l		3.6	4.9	2.2			7.66	2.1	2.9	1.8	8.36		3.4	3.6	3.6	4.5	1.4		5.6	2.2	8.3					7.4	4.3
Temperature	℃	8	11	11	14			7.97	5	6	14.66	8.14		11	15	17	14	12		10	8	2		2		8.3	9.9	15.2
Time of measurement	-																											
Comment																												
Monthly Laboratory Determinations																											
Ammonium	mg/l		5.7	1.5	1.2			0.4	0.4	1	4.7			5.4	<0.3	<0.3	<0.3	<0.3		0.8	18.8	16.7		18.1	33.5	8.7	24.9	15
Chloride	mg/l		142	233	273			220	236	236	301			322	326	307	349	160		172	301	358	356	2460	327	173	323	310
COD	mg/l		118	46	60			55	59	31	72			70	62	49	43	36		73	664	82	104	174	99	99	83	64
Sulphate	mg/l			62						41						43							33		38		40
BOD	mg/l																				27							
Suspended Solids	mg/l																				1280	37	40	228	20	97	11	12
Total Hydrocarbons (C6-C40)	mg/l																											



Surface Water
Field Monitoring Sheet

SW3

				(Sep mon)			(Dec Mon)																					
Date monitored		**05/07/10**	**01/08/10**	**01/10/10**	**27/10/10**	**15/11/10**	**10/01/11**	**26/01/11**	**22/02/11**	**31/03/11**	**25/04/11**	**31/05/11**	**20/06/11**	**20/07/11**	**19/08/11**	**08/09/11**	**05/10/11**	**03/11/11**	**01/12/11**	**01/03/12**	**04/04/12**	**03/05/12**	**06/06/12**	**10/07/12**	**01/08/12**	**03/09/12**	**03/10/12**	**07/11/12**
Determinand	Units																											
Insitu Liquid Determinations					lab results		lab not insitu	lab not insitu	lab not insitu																			
pH		7.3	6.9	7.4	7.2		7.2	7.5	7.1	6.9	7.4	7.4		7.3	7.4	7.2	7.3	7.3	7.5	7.2	7.3	7.3	6.9	7.1	7.2	7.3	7.4	7.2
Electrical Conductivity	µS/cm	1180	1050	867	705		1240	1210	1560	945	1400	1050		850	810	1140	1040	305	705	560	1460	830	2850	700	640	935	515	790
Dissolved Oxygen	mg/l	3.5	3.3	3.5	4.3		10.8	6.8	8.5	6.7	7.6	6.9		9.0	6.7	6.6	6.0	7.5	8.7	9.5	9.9	9.3	7.3	9.4	7.2	6.8	10.0	8.7
Temperature	℃	13.1	15.6	12.9	10.5		3.9	-	6.9	8.2	11	15	14	15.0	14.0	12.0	13.5	12.0	7.6	8.9	7.3	11.4	11.1	13.6	13.8	17.1	10.3	9.2
Time of measurement	-							16:00	13:20	17:40	15:34	13:51	16:15	14:42	10:58	11:13	11:38	10:40	12:20	12:12	11:41	15:35	11:10	14:20	10:30	12:05	10:23	14:45
Comment								Temp probe broken		Very high level																		
Monthly Laboratory Determinations																												
Ammonium	mg/l	6.06	<0.19	1.1	1.58		4.51	7.03	6.1	7.8	22.9	8.7		4.2	4.1	0.1	6.4	1.7	5.6	5.1	4.3	1.9	13.5	1.6	6.1	10.2	21.4	3.4
Chloride	mg/l	295	285	220	167		356	327	440	220	300	230		190	200	310	260	63	140	120	420	220	900	190	140	210	89	190
COD	mg/l	41	47	54	68		52	73	46	140	87	39		58	60	38	44	88	58		46	44	67	47	42	56	51	39
Sulphate	mg/l			37.6			34.1			28						40			38	25			140			40		
BOD	mg/l								3	15	4	2		3	1	7	2	11	3	3	3	3	10	3	3	11	2	3
Suspended Solids	mg/l	7	10	12	51		17	66	45	260	40	15		<10	35	12	15	280	30	80	30	25	20	23	10	11	240	<10
Total Hydrocarbons (C6-C40)	mg/l																							<0.040	0.141		0.044	<0.02

Surface Water
Field Monitoring Sheet

SW3

Date monitored		**04/12/12**	**14/01/13**	**05/02/13**	**11/03/13**	**01/04/13**	**01/05/13**	**03/06/13**	**03/07/13**	**05/08/13**	**02/09/13**	**01/10/13**	**04/11/13**	**02/12/13**	**07/01/14**	**03/02/14**	**06/02/14**	**03/03/14**	**01/04/14**	**06/05/14**	**02/06/14**	**01/07/14**	**05/08/14**	**01/09/14**	**06/10/14**	**03/11/14**	**01/12/14**	**02/03/15**
Determinand	Units																											
Insitu Liquid Determinations																												
pH		7.1	7.1	6.9		7.3	7.3	7.5	7.2	6.7	7.1	7.1	7.3	7.2	7.1	7.1	7.2	7.2	7.3	7.4	8	7.4	7.2	7.3	7.3	7.2	7.4	7.2
Electrical Conductivity	µS/cm	580	2640	1650		1110	910	1040	640	1020	1040	865	425	825	690	765	625	610	910	885	935	905	855	435	520	540	565	1160
Dissolved Oxygen	mg/l	11.1	13.2	11.0		9.8	10.3	6.6	7.2	4.4	4.5	5.0	10.7	8.5	11.9	11.5	10	9.5	10.39	10.2	11.9	7.3	5.8	6.9	7.9	8.6	9.3	10.06
Temperature	℃	4.8	3.0	6.8	6.2	7.2	10.1	18.6	14.4	14.5	17.8	13.5	8.7	7.20	8.1	7.4	7.9	8	8.7	13.9	18.4	21.6	15.4	17.9	11.1	10	9.3	5.5
Time of measurement	-	13:50	14:25	13:41	12:25	11:50	11:23	13:08	11:40	11:50	12:55	15:06	12:15	12:05	11:55	11:40	14:30	12:45	12:03	11:00	11:37	13:30	10:48	13:00	10:05	11:12	12:30	10:10
Comment																	Solvent odour present. Oil on surface	Solvent odour present. Water level high.	Solvent odour not present. Water level average.	Solvent odour not present. Water level average.	Solvent odour not present. Water level low and moving very slowly.	Solvent odour not present. Water level low and moving very slowly.	Milky appearance to water. No odour.Water level medium and moving slowly.	Water level low moving slow, no odour	Water level average, moving slow, no odour	Water was very murky and the water level was average moving fast than uaual. No odour	Water was very murky and the water flow was faster than usual. No odour	Water was slow moving. No odour
Monthly Laboratory Determinations																												
Ammonium	mg/l	1.9	0.4	1.1		2.0	3.1	1.8	2.4	1.5	0.2	0.2	0.2	0.50	0.67	0.69	0.43	0.88	1.93	2.07	0.38	0.9	1.5	0.4	0.66	0.81	0.92	1.09
Chloride	mg/l	140	880	525		300	230	290	150	280	291	250	82	230	180	190	150	150	230	220	260	230	210	89	130	160	150	320
COD	mg/l	47	79	30		29	27	<20	33	25	42	<20	39	21	35	28	35	39	21	34	27	27	36	35	52	47	49	34
Sulphate	mg/l	25						40			39			37			30	37			38			30			37	40
BOD	mg/l	3	4	3		<2	3	5	4	1	7	2	2	2	2	2	2	2	1	9	4	3	1	2	2	4	< 2	4
Suspended Solids	mg/l	180	350	10		<10	10	<10	20	<10	40	<10	15	< 10	<10	< 10	< 10	10	< 10	10	15	<10	85	< 10	< 10	55	25	10
Total Hydrocarbons (C6-C40)	mg/l						<0.01			<0.01	0.014	0.014										0.058	0.098					

Surface Water
Field Monitoring Sheet

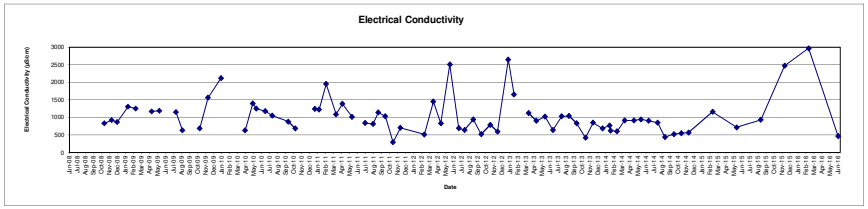
SW3

Date monitored		**01/06/15**	**01/09/15**	**01/12/15**	**01/03/16**	**20/06/16**
Determinand	Units					
Insitu Liquid Determinations						
pH		7.4	7.1	7.1	7.1	6.8
Electrical Conductivity	µS/cm	725	935	3230	3470	470
Dissolved Oxygen	mg/l	9.24	6.9	10.1	9.1	6.75
Temperature	℃	10.8	12.4	5.8	7.6	15.3
Time of measurement	-	10:20	10:05	14:06	10:35	13:30
Comment		Average water level, Murky colour and slow moving.	Murky colour and slow moving.	Water level very high, Murky in colour and moving quite fast.	Slightly orange in colour and cloudy. Water flow was average.	Slow flow, very murky, lots of heavy staining
Monthly Laboratory Determinations						
Ammonium	mg/l	1	1.03	0.95	2	0.41
Chloride	mg/l	170	220	1000	887	100
COD	mg/l	26	36	50	46	37
Sulphate	mg/l	27	34	28	50	23
BOD	mg/l	4	<2	6	6	2
Suspended Solids	mg/l	<10	20	75	45	
Total Hydrocarbons (C6-C40)	mg/l					

Surface Water
Field Monitoring Sheet

SW4

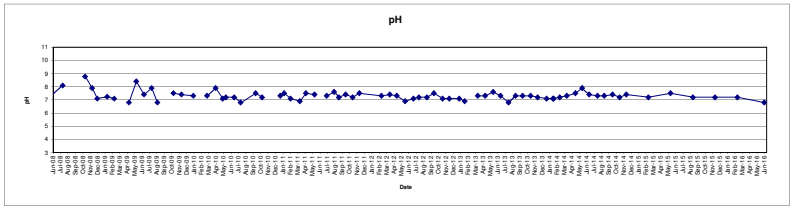
Date monitored		**24/06/04**	**05/08/04**	**26/08/04**	**29/09/04**	**28/10/04**	**18/11/04**	**16/12/04**	**27/01/05**	**10/03/05**	**22/04/05**	**18/05/05**	**04/07/05**	**18/08/05**	**16/09/05**	**04/11/05**	**14/11/05**	**13/12/05**
Determinand	Units																	
Insitu Liquid Determinations																		
pH	pH units	8.33	8.31	8.3	7.66	7.75	7.74	7.87	7.64	7.62	7.3	10	7.81	7.21		7.71		7.6
Electrical Conductivity	µS/cm	730	7290	7290	1220	222.6	2249	2765	3490	3460	3490	2651	7470	3460		2200		2821
Dissolved Oxygen	mg/l	7.21	8.1	8.01	77.9	76.8	58.1	50.8	45.3	50.2	45.1	49.1	47.1	44.1		2.89		7.25
Temperature	ºC	11.6	12.1	11.9	12.5	10.5	5.8	7.1	7.8	8.1	10	7.4	9			12.9		8.3
Time of measurement	-	10:40	16:05	14:00		12:45	15:30	15:25	15:30	15:30	04:51	13:12		08:00		15:28		12:05
Comment																		
Monthly Laboratory Determinations																		
Ammonium	mg/l	<0.3	13.6	2.9	11.9	0.3	63.9	95.1	62	97.6	16.1	2.1	18.8	57		98.5		67.4
Chloride	mg/l	20	-	184	487	31	415	430	709	663	276	153	357	457		488		422
COD	mg/l	23	43	35	46	54	165	265	247	370	91	50	76	227		266		244
Sulphate	mg/l	-	41	32														
BOD	mg/l																	
Suspended Solids (Total)	mg/l																	
Total Hydrocarbons (C6-C40)	mg/l																	



Surface Water
Field Monitoring Sheet

SW4

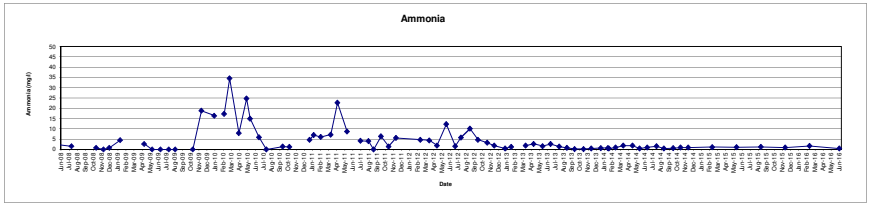
Date monitored		**06/01/06**	**16/02/06**	**23/03/06**	**18/04/06**	**08/05/06**	**06/06/06**	**18/07/06**	**10/08/06**	**07/09/06**	**04/10/06**	**10/11/06**	**08/12/06**	**12/01/07**	**09/02/07**	**09/03/07**	**20/04/07**	**10/05/07**	**12/06/07**	**30/07/07**	**14/08/07**	**13/09/07**	**17/10/07**	**20/11/07**	**19/12/07**	**21/01/08**	**19/02/08**	**12/03/08**
Determinand	Units																										
Insitu Liquid Determinations																											
pH	pH units	7.51	4.78	6.24	7.38	7.33	7.76	7.83	7.16	6.72	6.56	6.77	6.61	6.4	6.46	6.46	7.3	7.43	7.59	7.59	7.29	8.27	8.42	8.58	7.54	7.92	7.98	7.63
Electrical Conductivity	µS/cm	1654	1016	1870	1956	1328	1686	1234	2193	6670	4370	1375	2624	1481	4490	6840	1148	456	289	1478	1560	1175	981	428	532	1089	747	718
Dissolved Oxygen	mg/l	8.29	0	0	0	4.58	0	0	0	1.64	1.32	2.18	1.55	2.15	1.82	1.31	0.91	1.11	1.73	1.92	1.41	4.78	3.32	7.12	7.14	6.81	7.23	6.61
Temperature	ºC	7.6	9.2	9.7	11.4	12.1	15.5	15.9	13.9	14.1	13.1	9	7.7	7.9	6.2	8	10.1	11.6	14.5	14.4	15.3	13.8	8.7	10	8.3	6.4	7.2	8.2
Time of measurement	-	11:56	15:13	13:00	15:15	11:35	12:45	11:38	11:50	13:30	15:35	11:15	14:20	12:30	13:05	16:05	15:35	13:15	16:10	13:25	12:56	10:55	13:05	11:25	11:15	10:45	13:25	15:45
Comment																												
Monthly Laboratory Determinations																												
Ammonium	mg/l	27.6	0.7	13.4	29.1	9.1	17.6	16.5	19	20.2	123	3.5	48	8	26	177	14	1.6	11	1.9	2.6	2.7	1.7	0.4	1.8	11.2	6.1	11
Chloride	mg/l	464	285	452	399	319	347	242	337	1160	681	219	337	241	846	884	302	45	298	251	256	278	264	79	190	200	233	303
COD	mg/l	143	64	85	123	30	70	57	76	109	426	46	159	75	161		62	51	67	30	34	21	31	52	32	33	55	86
Sulphate	mg/l															39.6			42			38			35			41
BOD	mg/l																											
Suspended Solids (Total)	mg/l																											
Total Hydrocarbons (C6-C40)	mg/l																											



Surface Water
Field Monitoring Sheet

SW4

Date monitored		**01/04/08**	**01/05/08**	**01/06/08**	**30/07/08**	**30/08/08**	**30/09/08**	**31/10/08**	**28/11/08**	**19/12/08**	**29/01/09**	**27/02/09**	**25/03/09**	**29/04/09**	**29/05/09**	**29/06/09**	**31/07/09**	**24/08/09**	**22/09/09**	**29/10/09**	**30/11/09**	**18/01/10**	**05/02/10**	**24/02/10**	**16/03/10**	**20/04/10**	**19/05/10**	**01/06/10**
Determinand	Units																										
Insitu Liquid Determinations																											
pH	pH units	7	7.1	7.1	8.1			8.77	7.9	7.1	7.24	7.1		6.8	8.4	7.4	7.9	6.8		7.5	7.4	7.3			7.3	7.9	7.1	7.2
Electrical Conductivity	µS/cm	974						831	924	864	1303	1254		1170	1190		1150	631		682	1560	2120				627	1400	1250
Dissolved Oxygen	mg/l		4.9	3.5	2.2			7.46	3.8	4.2	5.89	8.53		3.3	4.1	3.3	4.3	1.6		3.8	3.9	8.4					2.7	4.7
Temperature	ºC	8	11	11	14			8.11	5	6	6.87	8.12		9	15	18	14	12		10	8	2		2		8.2	15.5	14.9
Time of measurement	-																											
Comment																												
Monthly Laboratory Determinations																												
Ammonium	mg/l		4.6	2.4	1.5			0.7	< 0.3	0.8	4.5			2.7	<0.3	<0.3	<0.3	<0.3		<0.3	18.8	16.4		17.2	34.5	7.9	24.7	15
Chloride	mg/l		149	230	266			233	235	240	302			325	323	308	326	154		172	395	353	354	2490	329	177	325	311
COD	mg/l		82	42	55			46	61	31	97			67	63	65	37	38		63	379	81	83	170	95	94	88	56
Sulphate	mg/l			62						41						40							33		37			40
BOD	mg/l																				8							
Suspended Solids (Total)	mg/l																				629	38	36	204	19	91	9	9
Total Hydrocarbons (C6-C40)	mg/l																											



Surface Water
Field Monitoring Sheet

SW4

				(Sep mon)			(Dec Mon)																						
Date monitored		**05/07/10**	**01/08/10**	**01/10/10**	**27/10/10**	**15/11/10**	**10/01/11**	**26/01/11**	**22/02/11**	**31/03/11**	**25/04/11**	**31/05/11**	**20/06/11**	**20/07/11**	**19/08/11**	**08/09/11**	**05/10/11**	**03/11/11**	**01/12/11**	**01/03/12**	**04/04/12**	**03/05/12**	**06/06/12**	**10/07/12**	**01/08/12**	**03/09/12**	**03/10/12**	**07/11/12**
Determinand	Units																												
Insitu Liquid Determinations					lab results		lab not insitu	lab not insitu	lab not insitu																				
pH	pH units	7.2	6.8	7.5	7.2		7.3	7.5	7.1	6.9	7.5	7.4		7.3	7.6	7.2	7.4	7.2	7.5	7.3	7.4	7.3	6.9	7.1	7.2	7.2	7.5	7.1
Electrical Conductivity	µS/cm	1180	1050	880	686		1240	1220	1950	1090	1390	1010		840	815	1140	1030	290	705	515	1450	830	2510	690	635	940	520	790
Dissolved Oxygen	mg/l	3.8	4.9	5	4.4		6.6	9.5	8.9	6.8	7.5	7.1		9.7	6.8	5.0	7.7	8.0	9.1	9.7	10.1	9.5	7.0	9.2	7.6	7.5	9.3	8.5
Temperature	ºC	13.1	16.4	12.7	10.5		4.2	-	6.7	8.2	11	15.5	14.5	15.0	14.0	12.0	14.0	12.5	7.4	9.3	7.1	11.6	11.1	13.1	13.8	15.6	10.2	9.5
Time of measurement	-							16:10	11:30	17:55	15:29	13:57	16:00	14:47	11:02	11:20	11:48	10:50	12:40	12:20	11:50	15:40	11:15	14:25	10:40	12:15	10:29	14:56
Comment								Temp probe broken		Very high level																		
Monthly Laboratory Determinations																												
Ammonium	mg/l	5.85	<0.19	1.37	1.22		4.6	6.96	6	7.2	22.7	8.7		4.2	4.0	<0.05	6.4	1.4	5.6	4.7	4.4	1.9	12.3	1.6	5.8	10.1	4.7	3.2
Chloride	mg/l	290	282	222	162		359	328	580	280	300	220		190	190	290	260	58	150	120	420	220	860	170	140	210	89	190
COD	mg/l	37	54	54	65		53	83	62	120	64	41		53	60	39	43	77	60		45	46	86	50	43	52	43	44
Sulphate	mg/l			37.7			33.9			33						39			34	24			120			40		
BOD	mg/l								13	11	4	2		2	<1	2	1	10	3	2	3	2	9	3	2	13	2	3
Suspended Solids (Total)	mg/l	10	9	13	23		17	61	65	190	45	15		<10	30	9	15	220	25	75	20	10	80	31	<10	11	240	35
Total Hydrocarbons (C6-C40)	mg/l																							0.041	0.133		0.071	<0.02

Surface Water
Field Monitoring Sheet

SW4

Date monitored		**04/12/12**	**14/01/13**	**05/02/13**	**11/03/13**	**01/04/13**	**01/05/13**	**03/06/13**	**03/07/13**	**05/08/13**	**02/09/13**	**01/10/13**	**04/11/13**	**02/12/13**	**07/01/14**	**03/02/14**	**06/02/14**	**03/03/14**	**01/04/14**	**06/05/14**	**02/06/14**	**01/07/14**	**05/08/14**	**01/09/14**	**06/10/14**	**03/11/14**	**01/12/14**	**02/03/15**
Determinand	Units																											
Insitu Liquid Determinations																												
pH	pH units	7.1	7.1	6.9		7.3	7.3	7.6	7.3	6.8	7.3	7.3	7.3	7.2	7.1	7.1	7.1	7.2	7.3	7.5	7.9	7.4	7.3	7.3	7.4	7.2	7.4	7.2
Electrical Conductivity	µS/cm	590	2650	1650		1120	905	1020	635	1030	1040	835	420	850	685	770	625	600	915	910	945	900	850	440	525	545	570	1160
Dissolved Oxygen	mg/l	12.0	12.1	11.1		10.2	10.7	7.2	6.5	6.9	7.2	8.5	10.6	9.6	10.8	11.8	10.1	10.2	9.31	10.6	12.9	7.4	7.4	7.9	8.5	10.5	10.3	9.89
Temperature	ºC	5.2	3.1	6.7	5.9	7.2	9.5	17.0	14.5	14.4	17.4	13.0	8.7	7.00	7.9	7.4	8	7.9	8.2	13.5	17.6	21	16.5	17.8	11.1	9.9	9.3	5.1
Time of measurement	-	14:05	14:35	13:49	12:45	11:54	11:27	13:20	11:50	11:55	13:10	15:09	12:20	12:15	12:05	11:50	14:45	12:55	12:15	11:15	11:50	13:48	10:51	13:15	10:12	11:17	12:49	10:10
Comment																	Solvent odour present. Oil on surface	Solvent odour present. Water level high.	Solvent odour not present but water level very high about one foot below waterbank and was very murky in appearance.	Solvent odour not present. Water level average.	Solvent odour not present. Water level low and flow stationary.	Smelly odour.Scum on water surface. Water level low and flow stationary.	Milky appearance to water. No odour.Water level medium and moving slowly.	Water level low moving slow, no odour	Water level low moving slow, no odour	Water was very murky and the water level was average moving fast than uaual. No odour	Water was very murky and the water flow was faster than usual. No odour	Water was slow moving. No odour
Monthly Laboratory Determinations																												
Ammonium	mg/l	1.8	0.4	1.3		1.9	2.7	1.6	2.6	1.4	0.7	0.2	0.2	0.48	0.68	0.68	0.42	0.85	1.84	1.88	0.47	1.0	1.5	0.4	0.61	0.85	0.94	1.15
Chloride	mg/l	140	880	523		300	220	290	150	280	293	250	82	230	180	190	150	150	230	220	260	230	210	87	130	160	150	320
COD	mg/l	49	78	31		26	22	22	28	21	27	<20	37	21	38	29	39	39	21	32	31	26	27	30	53	41	43	35
Sulphate	mg/l	25						40			39			37			30	32			38			29			37	40
BOD	mg/l	2	4	3		<2	3	5	3	2	<2	1	2	2	2	< 2	2	2	1	8	5	3	2	2	3	4	< 2	2
Suspended Solids (Total)	mg/l	180	320	15		<10	15	<10	<10	<10	30	<10	15	< 10	<10	< 10	< 10	10	< 10	<10	40	<10	55	< 10	< 10	45	25	<10
Total Hydrocarbons (C6-C40)	mg/l						<0.01			<0.01	0.013	0.013										0.21	0.054					

Surface Water
Field Monitoring Sheet

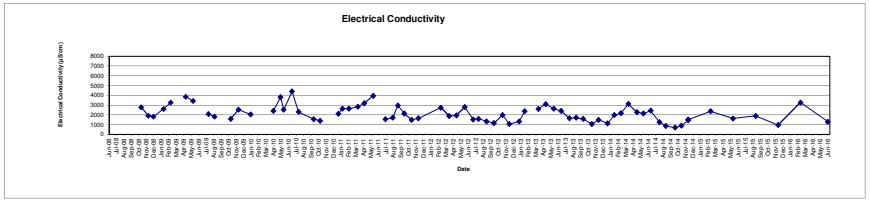
SW4

Date monitored		**01/06/15**	**01/09/15**	**01/12/15**	**01/03/16**	**20/06/16**
Determinand	Units					
Insitu Liquid Determinations						
pH	pH units	7.5	7.2	7.2	7.2	6.8
Electrical Conductivity	µS/cm	715	930	2470	2970	470
Dissolved Oxygen	mg/l	9.18	8.2	7.4	9.65	6.55
Temperature	ºC	10.4	12.6	6.1	7.7	15.5
Time of measurement	-	10:30	10:05	14:08	10:55	13:50
Comment		Average water level, Murky colour and slow moving.	Murky colour and slow moving.	Water level very high, Murky in colour and moving quite slow.	Slightly orange in colour and cloudy. Water flow was average.	Slow flow, very murky, lots of heavy staining
Monthly Laboratory Determinations						
Ammonium	mg/l	1.08	1.24	0.88	1.71	0.39
Chloride	mg/l	160	220	610	751	99
COD	mg/l	24	35	44	37	40
Sulphate	mg/l	26	34	27	49	22
BOD	mg/l	4	<2	4	5	<2
Suspended Solids (Total)	mg/l	<10	<10	50	30	
Total Hydrocarbons (C6-C40)	mg/l					

Surface Water
Field Monitoring Sheet

SW5

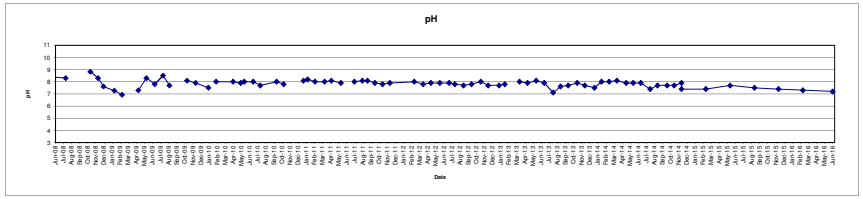
Date monitored		**24/06/04**	**05/08/04**	**26/08/04**	**29/09/04**	**28/10/04**	**18/11/04**	**16/12/04**	**27/01/05**	**10/03/05**	**22/04/05**	**18/05/05**	**04/07/05**	**18/08/05**	**16/09/05**	**04/11/05**	**14/11/05**	**15/12/05**
Determinand	Units																	
Insitu Liquid Determinations																		
pH	pH units				7.9	7.25	7.43				6.21	8.9	7.96	7.91				7.89
Electrical Conductivity	µS/cm				607	1659	4500				1040	2467	1321	3310				2394
Dissolved Oxygen	mg/l				59.4	71.5	59.8				31.4	56.4	39.1	29.6				6.9
Temperature	℃				12.9	10.4	10.2				10	7.81	9					9.5
Time of measurement	-					12:20	15:15				5.35pm	08:24		08:10				12:30
Comment								H/S Aspect	Health and Safety Issues									
Monthly Laboratory Determinations																		
Ammonium	mg/l				84.8	11.2	109					0.5	17.9	138				39.4
Chloride	mg/l				91	278	697					86	353	882				497
COD	mg/l				489	105	318					71	77	540				203
Sulphate	mg/l																	
BOD	mg/l																	
Suspended Solids (Total)	mg/l																	
Total Hydrocarbons (C6-C40)	mg/l																	



Surface Water
Field Monitoring Sheet

SW5

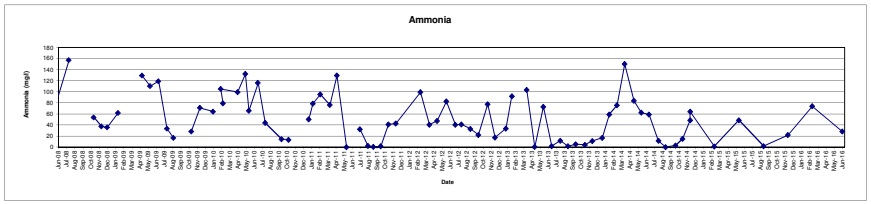
Date monitored		**06/01/06**	**16/02/06**	**23/03/06**	**18/04/06**	**08/05/06**	**06/06/06**	**18/07/06**	**10/08/06**	**07/09/06**	**04/10/06**	**10/11/06**	**08/12/06**	**12/01/07**	**09/02/07**	**09/03/07**	**20/04/07**	**10/05/07**	**12/06/07**	**30/07/07**	**14/08/07**	**13/09/07**	**17/10/07**	**20/11/07**	**19/12/07**	**21/01/08**	**19/02/08**	**12/03/08**
Determinand	Units																										
Insitu Liquid Determinations																											
pH	pH units	7.73	5.83	6.87	7.57	7.18	7.87	7.85	6.91	6.65	6.59	6.61	6.54	6.36	6.45	6.59	8.03	7.97	7.86	7.75	7.72	7.82	8.1	7.6	7.23	7.73	7.71	7.58
Electrical Conductivity	µS/cm	2263	3700	2136	2898	4560	5410	5620	7400	6470	4870	5350	4420	4710	5230	4620	4720	2997	1.86	5140	5420	4280	3880	3010	2985	3200	1846	1634
Dissolved Oxygen	mg/l	7.47	0	0	8	5.84	3.52	4.32 - 0	0	2.71	4.24	2.38	2.82	1.91	1.94	2.35	1.06	1.18	1.26	2.16	2.16	4.44	4.91	6.65	6.95	7.37	7.08	6.13
Temperature	℃	10.5	11.3	11.8	11.5	13.9	16.3	18	14.6	13.6	11.4	9.5	9.5	11	7.8	9.8	11.8	11.7	15.1	13.5	15.8	15.5	9.9	10.8	7.4	7.4	7.3	8.5
Time of measurement	-	12:03	15:03	13:30	15:00	11:20	12:25	11:18	11:35	13:05	15:20	11:25	13:55	12:45	13:10	15:10	15:20	13:00	15:40	13:10	12:40	10:40	12:50	11:10	07:12	10:30	13:10	15:30
Comment																												
Monthly Laboratory Determinations																												
Ammonium	mg/l	60.3	95.7	90.8	89.3	131	125	153	111	64	44	50	43	81	83	61.4	153	53	120	49	95	130	110	59	74	61.8	75.3	105
Chloride	mg/l	473	626	475	458	561	779	878	899	773	578	585	461	502	556	453	664	323	7.5	505	603	699	760	523	515	461	496	602
COD	mg/l	242	367	245	301	383	457	521	441	355	219	254	216	250	242		419	133	382	213	308	355	387	244	197	184	275	319
Sulphate	mg/l															54.8			18			<5			33			24
BOD	mg/l																											
Suspended Solids (Total)	mg/l																											
Total Hydrocarbons (C6-C40)	mg/l																											



Surface Water
Field Monitoring Sheet

SW5

Date monitored		**01/04/08**	**01/05/08**	**01/06/08**	**30/07/08**	**30/08/08**	**30/09/08**	**31/10/08**	**28/11/08**	**19/12/08**	**29/01/09**	**27/02/09**	**25/03/09**	**29/04/09**	**29/05/09**	**29/06/09**	**31/07/09**	**24/08/09**	**22/09/09**
Determinand	Units																		
Insitu Liquid Determinations																			
pH	pH units	8.1	8.4	8.4	8.3			8.83	8.3	7.6	7.27	6.94		7.3	8.3	7.8	8.5	7.7	
Electrical Conductivity	µS/cm	3430						2762	1920	1820	2616	3251		3860	3420		2100	1820	
Dissolved Oxygen	mg/l		7.2	6	1.8			5.44	2.3	1.9	3.84	5.34		4	3.1	3.5	5.5	3.5	
Temperature	℃	8	12	12	14			10.31	5	8	8.83	10.68		12	16	13	14	14	
Time of measurement	-																		
Comment																			
Monthly Laboratory Determinations																			
Ammonium	mg/l		114	61.1	157			53.6	37.5	35.7	61.7			129	110	119	33.4	16.5	
Chloride	mg/l		653	480	765			454	330	323	375			593	507	576	411	302	
COD	mg/l		361	202	482			191	137	136	186			383	286	360	153	151	
Sulphate	mg/l			58						52						21			
BOD	mg/l																		
Suspended Solids (Total)	mg/l																		
Total Hydrocarbons (C6-C40)	mg/l																		



Surface Water
Field Monitoring Sheet

SW5

													(Sep mon)			(Dec Mon)											
Date monitored		**29/10/09**	**30/11/09**	**18/01/10**	**05/02/10**	**24/02/10**	**16/02/10**	**20/04/10**	**19/05/10**	**01/06/10**	**05/07/10**	**01/08/10**	**01/10/10**	**27/10/10**	**15/11/10**	**10/01/11**	**26/01/11**	**22/02/11**	**30/03/11**	**25/04/11**	**31/05/11**	**20/06/11**	**20/07/11**	**19/08/11**	**08/09/11**	**05/10/11**	**03/11/11**	**01/12/11**
Determinand	Units																										
Insitu Liquid Determinations														lab results		lab not insitu	lab not insitu	lab not insitu										
pH	pH units	8.1	7.9	7.5			8	8	7.9	8	8	7.7	8	7.8		8.1	8.2	8	8	8.1	7.9		8.0	8.1	8.1	7.9	7.8	7.9
Electrical Conductivity	µS/cm	1590	2540	2040				2410	3820	2530	4410	2300	1580	1410		2110	2650	2630	2850	3190	3960		1560	1720	2980	2150	1510	1660
Dissolved Oxygen	mg/l	5.5	6.6	8					4.6	4.4	5.2	5.8	4.5	4.9		6.9	5.2	10.5	9.7	9.7	8.1		10.2	8.9	7.9	9.4	8.4	11.1
Temperature	℃	10	8	6		5		9.9	14.2	13.2	15.2	15	12.8	10.3		6.6	-	8.7	11	12	14.5	14.5	13.5	13.5	14.0	14.0	12.5	9.1
Time of measurement	-																16:25	11:20	18:15	15:19	14:13	15:50	15:12	11:13	11:35	12:02	11:05	13:00
Comment																	Temp probe broken											
Monthly Laboratory Determinations																												
Ammonium	mg/l	28.3	70.7	64.2		79.2	105	99.4	132	65.5	116	43.6	14.6	13.4		50.1	78.6	95	76	129	0.07		32.3	2.0	0.7	1.6	41.1	42.4
Chloride	mg/l	289	383	390	391	463	496	457	643	464	706	397	310	272		355	438	400	380	470	610		250	250	430	340	220	250
COD	mg/l	125	221	173	168	195	255	273	324	183	373	178	115	103		131	179	130	140	250	370		86	110	260	120	130	92
Sulphate	mg/l				42		37			44			52.9			48			38						31			49
BOD	mg/l		3															5	5	7	9		5	2	8	6	8	5
Suspended Solids (Total)	mg/l		50	29	29	29	46	47	19	36	83	43	52	50		21	35	25	30	45	70		40	110	44	80	6300	65
Total Hydrocarbons (C6-C40)	mg/l																											

Surface Water
Field Monitoring Sheet

SW5

Date monitored		**01/03/12**	**04/04/12**	**03/05/12**	**06/06/12**	**10/07/12**	**01/08/12**	**03/09/12**	**03/10/12**	**07/11/12**	**04/12/12**	**14/01/13**	**05/02/13**	**11/03/13**	**01/04/13**	**01/05/13**	**03/06/13**	**03/07/13**	**05/08/13**	**02/09/13**	**01/10/13**	**04/11/13**	**02/12/13**	**07/01/14**	**03/02/14**	**03/03/14**	**01/04/14**	**06/05/14**
Determinand	Units																										
Insitu Liquid Determinations																											
pH	pH units	8.0	7.8	7.9	7.9	7.9	7.8	7.7	7.8	8.0	7.7	7.7	7.8		8.0	7.9	8.1	7.9	7.1	7.6	7.7	7.9	7.7	7.5	8	8	8.1	7.9
Electrical Conductivity	µS/cm	2750	1880	1960	2800	1540	1610	1340	1160	1990	1060	1350	2390		2620	3090	2640	2400	1670	1720	1590	1060	1510	1130	1990	2170	3120	2290
Dissolved Oxygen	mg/l	9.5	10.8	10.4	8.3	9.7	9.7	8.4	9.9	10.0	11.9	12.5	10.6		11.3	9.7	8.6	7.8	8.0	7.9	9.1	12.2	11.4	12.7	12.5	11.9	11.18	8.2
Temperature	℃	9.9	7.2	10.3	11.5	12.6	13.8	15.1	11.1	10.1	6.5	6.4	8.5	6.6	8.7	9.9	15.5	13.7	15.5	17.6	12.9	9.4	8.00	7.9	8.8	10.1	11	12.7
Time of measurement	-	12:40	11:55	15:38	11:27	14:25	10:55	12:10	10:38	14:57	14:05	14:40	13:55	12:20	11:50	11:20	13:08	12:10	12:10	13:00	15:09	12:20	12:10	12:10	12:00	12:55	12:15	11:30
Comment																							Structural integrity of the hillside is satisfactory. Some dark brown staining on ground. Water running quite fast, light brown in colour and foaming on the rocks. No unusual odour from water or surrounding area. More erosion evident on the coastal bank, especially where large chunks of tarmac have fallen off. This is making sample collection from the hillside more difficult, but can still be carried out safely.	Structural integrity of the hillside is satisfactory. Some dark brown staining on ground. Water running quite fast, light brown in colour and foaming on the rocks. No unusual odour from water or surrounding area. More erosion evident on the coastal bank, especially where large chunks of tarmac have fallen off. This is making sample collection from the hillside more difficult, but can still be carried out safely.	Structural integrity of the hillside is satisfactory. Some dark brown staining on ground. Water running quite fast, light brown in colour and foaming on the rocks. No unusual odour from water or surrounding area. No more coastal erosion evident. Sample collection from the hillside can still be carried out safely.	Structural integrity of the hillside is satisfactory. Some dark brown staining on ground. Water running quite fast, light brown in colour and foaming on the rocks. No unusual odour from water or surrounding area. No more coastal erosion evident. Sample collection from the hillside can still be carried out safely.	Structural integrity of the hillside is satisfactory. Some dark brown staining on ground. Water running quite fast, light brown in colour and foaming on the rocks. No unusual odour from water or surrounding area. No more coastal erosion evident. Sample collection from the hillside can still be carried out safely.	Structural integrity of the hillside is satisfactory. Some dark brown staining on ground. Water running quite fast, light brown in colour and foaming on the rocks. No unusual odour from water or surrounding area. No more coastal erosion evident. Sample collection from the hillside can still be carried out safely.
Monthly Laboratory Determinations																												
Ammonium	mg/l	99.0	40.5	47.5	82.5	40.5	41.1	32.9	22.0	77.5	17.5	33.6	92.0		103.0	0.2	72.8	1.9	11.5	1.6	5.3	4.1	11.1	16.7	59	75.4	150	83.6
Chloride	mg/l	470	340	370	530	270	270	200	160	310	180	220	450		460	500	530	480	370	377	380	220	330		400	390	490	380
COD	mg/l		92	97	250	86	91	86	59	160	54	68	190		130	140	220	170	99	97	110	54	110	59	90	180	250	120
Sulphate	mg/l	34			33			41			44						31			48			54			40		
BOD	mg/l	4	4	4	7	3	3	25	3	4	2	2	5		2	6	6	6	5	3	4	2	3	2	4	4	7	5
Suspended Solids (Total)	mg/l	30	45	40	65	50	45	50	55	40	55	40	30		25	20	25	15	75	50	55	20	25	15	15	25	20	30
Total Hydrocarbons (C6-C40)	mg/l					<0.40	0.061		<0.010	0.05						0.11			0.023	0.053	0.051						

Surface Water
Field Monitoring Sheet

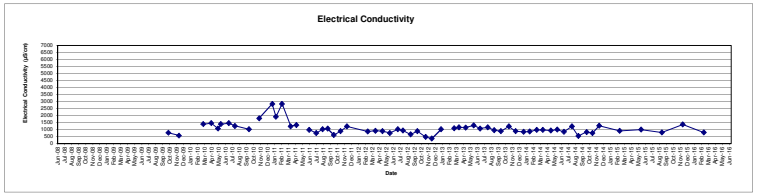
SW5

								5	5A	5A	5A	5A			
Date monitored		**02/06/14**	**01/07/14**	**05/08/14**	**01/09/14**	**08/10/14**	**03/11/14**	**01/12/14**	**01/12/14**	**02/03/15**	**01/06/15**	**01/09/15**	**01/12/15**	**01/03/16**	**20/06/16**
Determinand	Units														
Insitu Liquid Determinations															
pH	pH units	7.9	7.9	7.4	7.7	7.7	7.7	7.9	7.4	7.4	7.7	7.5	7.4	7.3	7.2
Electrical Conductivity	µS/cm	2150	2440	1280	875	700	905	1460	1530	2380	1640	1900	965	3280	1310
Dissolved Oxygen	mg/l	8.3	8.3	7.6	9.7	9.7	10.8	10.7	7.37	8.96	7.9	11.2	10.2	8.81	9.35
Temperature	℃	15.7	17.3	15.5	15.6	12.8	10.6	9.5	10.5	8.3	11.2	14	7.7	10.1	12.9
Time of measurement	-	12:20	13:55	11:10	14:12	11:30	11:33	10:50	12:30	10:10	14:35	12:20	14:20	11:25	14:00
Comment		Structural integrity of the hillside is satisfactory. Some dark brown staining on ground. Water running quite fast, light brown in colour and foaming on the rocks. No unusual odour from water or surrounding area. No more coastal erosion evident. However the growth of the grass below the sampling point is quite thick and at a later date could make sampling more difficult.	Structural integrity of the hillside is satisfactory. Some dark brown staining on ground. Water running quite slow, light brown in colour and no foaming on the rocks. No unusual odour from water or surrounding area. No more coastal erosion evident. However the growth of the grass below the sampling point (Just below cliff face) is quite thick and should be cut back to enable satisfactory sampling.	Access to sampling point very difficult, and possibly unsafe, due to the over growth of vegetation in this area. Structural integrity of the hillside is satisfactory. Some dark brown staining on ground. Water running quite slow, light brown in colour and no foaming on the rocks. No unusual odour from water or surrounding area. No more coastal erosion evident.	Access to sampling point very difficult, and possibly unsafe, due to the over growth of vegetation in this area. Structural integrity of the hillside is satisfactory. Some dark brown staining on ground. Water running quite fast, light brown in colour and slight foaming on the rocks. No unusual odour from water or surrounding area. No more coastal erosion evident.	Access to sampling point very difficult, and possibly unsafe, due to the over growth of vegetation in this area. Also the structural integrity of the hillside has been compromised due to the erosion of soil at the bottom of the hillside. Water running very fast,(causing more soil errosion), light brown in colour and foaming on the rocks. No unusual odour from water or surrounding area. If further errosion takes place then sampling will be an issue.	Access to sampling point difficult, and possibly unsafe but due to the dying off of the vegetation in this area sampling was under taken. Also the structural integrity of the hillside has been compromised due to the erosion of soil at the bottom of the hillside. Water running slow , light brown in colour. No unusual odour from water or surrounding area. Further errosion of the coastline has taken place.	Access to sampling point difficult but due to the dying off of the vegetation in this area a sample was obtainable. taken. The structural integrity of the hillside continues to be compromised due to the erosion of soil at the bottom of the hillside. Water flow fairly slow, light brown in colour. No unusual odour from water or surrounding area.	Sample was taken from the top of the hill. This locality this would be an easier sampling point than the one from the base of the hill.		Water sample taken from top of the hill. Running quite well and no frothing.	Water sample taken from top of the hill. Over grown with grass and weeds hindering access of sampling point.	Water sample taken from top of the hill. Running very well and no frothing.	Light brown in colour and slightly cloudy with a solvent like smell, flow was average.	Fast fow, heavy staining,overgrown vegatation
Monthly Laboratory Determinations															
Ammonium	mg/l	62	58.9	11.4	3.3	2.84	15.1	48.4	64.2	1.21	48.6	1.85	21.8	73.6	28.2
Chloride	mg/l	390	420	210	160	180	210	280	250	370	240	300	170	347	190
COD	mg/l	130	190	75	55	51	75	120	130	100	58	89	63	130	52
Sulphate	mg/l	34			41			40	39	40	36	39	32	30	38
BOD	mg/l	6	9	4	3	2	5	4	4	5	4	3	4	7	2
Suspended Solids (Total)	mg/l	40	75	65	45	20	30	20	30	10	35	25	95	35	
Total Hydrocarbons (C6-C40)	mg/l		0.123	0.034											

Surface Water
Field Monitoring Sheet

SW6

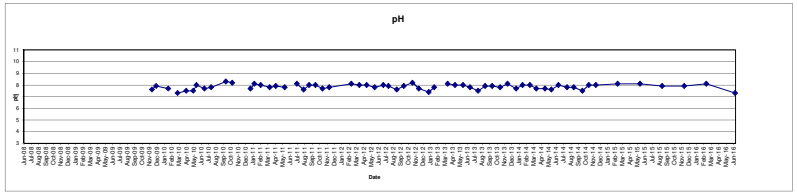
Date monitored		24/06/04	05/08/04	26/08/04	29/09/04	28/10/04	18/11/04	16/12/04	27/01/05	10/03/05	22/04/05	18/05/05	04/07/05	18/08/05	16/09/05	04/11/05	14/11/05	15/12/05
Determinand	Units																	
Insitu Liquid Determinations																		
pH	pH units				7.9	7.35	7.84				8.47							7.54
Electrical Conductivity	µS/cm				685	1427	4060											3530
Dissolved Oxygen	mg/l				79.6	86.1	90.1				29.6							10.37
Temperature	ºC				12.4	10.6	8.2				10							9.5
Time of measurement	-					12:00	15:00				18:00							13:16
Comment								Health and Safety Issues										
Monthly Laboratory Determinations																		
Ammonium	mg/l				245	21.2	135				110	0.3						157
Chloride	mg/l				965	188	526				730	115						543
COD	mg/l				731	99	337				373	58						381
Sulphate	mg/l																	
BOD	mg/l																	
Suspended Solids (Total)	mg/l																	
Total Hydrocarbons (C6-C40)	mg/l																	



Surface Water
Field Monitoring Sheet

SW6

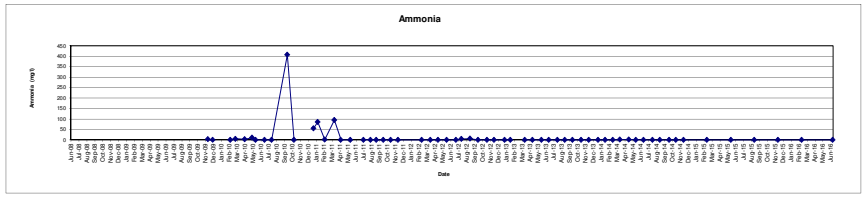
Date monitored		**06/01/06**	**16/02/06**	**23/03/06**	**18/04/06**	**08/05/06**	**06/06/06**	**18/07/06**	**10/08/06**	**07/09/06**	**04/10/06**	**10/11/06**	**08/12/06**	**12/01/07**	**09/02/07**	**09/03/07**	**20/04/07**	**10/05/07**	**12/06/07**	**30/07/07**	**14/08/07**	**07/09/07**	**17/10/07**	**20/11/07**	**20/12/07**
Determinand	Units																								
Insitu Liquid Determinations																									
pH	pH units				7.21	6.51	7.5	7.74		6.64	6.62	6.68	6.63	6.44	6.51	6.48	7.55	7.5	7.7	7.63	7.67	7.93			
Electrical Conductivity	µS/cm				4580	5250	4980	6420		8360	5700	4630	3740	5330	4070	5860	5770	5930	213	5830	6450	5700			
Dissolved Oxygen	mg/l				8.87	8.34	0	9.35 - 0		4.78	4.68	2.38	2.4	2.02	2.25	1.8	1.14	1.21	1.86	1.99	2.4	6.24			
Temperature	℃				8.7	10.7	11.4	15.2		13.5	12.7	9.5	8.6	7.6	6.5	8	10	11.1	12.2	13.6	14.1	14.1			
Time of measurement	-				15:40	12:20	13:25	12:32		16:00	16:00	12:30	15:10	13:50	13:40	16:25	16:00	14:25	16:45	10:15	10:00	13:30			
Comment		No Access	Hazardous Approach Due to High Winds & Rain						Inaccessible due to hazardous approach.														Not taken due to H &S	Not taken due to H &S	Not taken due to H &S
Monthly Laboratory Determinations																									
Ammonium	mg/l				129	202	220	283		219	113	91	72	120	130	104	252	170	280	120	233	220			
Chloride	mg/l				481	614	774	963		902	611	427	368	474	519	480	772	544	947	554	786	873			
COD	mg/l				412	556	680	771		732	321	259	207	333	318	6.48	683	419	807	398	677	797			
Sulphate	mg/l															<5			<5			<5			
BOD	mg/l																								
Suspended Solids (Total)	mg/l																								
Total Hydrocarbons (C6-C40)	mg/l																								



Surface Water
Field Monitoring Sheet

SW6

Date monitored		**20/01/08**	**19/02/08**	**03/03/08**	**29/04/08**	**15/05/08**	**15/06/08**	**15/07/08**	**15/08/08**	**15/09/09**	**15/10/08**	**15/11/08**	**15/12/08**	**15/01/09**	**15/02/09**	**15/03/09**	**15/04/09**	**15/05/09**	**15/06/09**	**15/07/09**	**15/08/09**	**15/09/09**
Determinand	Units																					
Insitu Liquid Determinations																						
pH	pH units																					
Electrical Conductivity	µS/cm																					
Dissolved Oxygen	mg/l																					
Temperature	ºC																					
Time of measurement	-																					
Comment		Not taken due to H &S	Not taken due to H &S	Not taken due to H &S	Not taken due to H &S	Not taken due to H &S	Not taken due to H &S	Not taken due to H &S	Not taken due to H &S	Not taken due to H &S	Not taken due to H &S	Not taken due to H &S	Not taken due to H &S	Not taken due to H &S	Not taken due to H &S	Not taken due to H &S	Not taken due to H &S	Not taken due to H &S	Not taken due to H &S	Not taken due to H &S	Not taken due to H &S	Not taken due to H &S
Monthly Laboratory Determinations																						
Ammonium	mg/l																					
Chloride	mg/l																					
COD	mg/l																					
Sulphate	mg/l																					
BOD	mg/l																					
Suspended Solids (Total)	mg/l																					
Total Hydrocarbons (C6-C40)	mg/l																					



Surface Water
Field Monitoring Sheet

SW6

Date monitored		**15/10/09**	**30/11/09**	**18/12/09**	**05/02/10**	**24/02/10**	**16/03/10**	**20/04/10**	**19/05/10**	**01/06/10**	**05/07/10**	**01/08/10**	**01/10/10 (Sep mon)**	**27/10/10**	**15/11/10**	**10/01/11 (Dec Mon)**	**26/01/11**	**22/02/11**	**31/03/11**	**25/04/11**	**31/05/11**	**20/06/11**	**21/07/11**	**17/08/11**	**08/09/11**	**05/10/11**	**03/11/11**	**01/12/11**
Determinand	Units																											
Insitu Liquid Determinations														lab results		lab not insitu	lab not insitu	lab not insitu										
pH	pH units		7.6	7.9	7.7		7.3	7.5	7.5	8	7.7	7.8	8.3	8.2		7.7	8.1	8	7.8	7.9	7.8		8.1	7.6	8.0	8.0	7.7	7.8
Electrical Conductivity	µS/cm		764	576				1380	1460	1060	1390	1450	1260	1030		1810	2820	1910	2840	1240	1330		990	750	1030	1070	610	880
Dissolved Oxygen	mg/l		9.6	5.7					3.7	7.7	4.9	7.4	6.8	4.3		6.7	7.9	11.5	10.7	9.5	7.8		9.0	9.7	9.2	10.4	9.2	10.9
Temperature	℃		8	4				6.8	8.8	10.2	13.1	13.6	12.4	10.2		0.3	-	8.4	9.5	8	9.5	12	13.5	14.0	12.5	13.0	12.0	10.3
Time of measurement	-																15:50	10:55	10:50	16:32	14:36	09:30	11:45	15:30	13:20	11:23	11:45	14:05
Comment		Not taken due to H &S	SW samples now taken from Control Chamber 3 internal to Ness Landfill			No measurements taken											Temp probe broken											
Monthly Laboratory Determinations																												
Ammonium	mg/l		2.6	<0.3		0.8	5.5	3.6	10.9	<0.19	<0.19	<0.19	407	<0.19		55.6	85.9	2.07	95	0.21	<0.05		0.6	0.8	<0.05	0.1	0.1	<0.05
Chloride	mg/l		84	67	117	49	180	333	203	109	146	126	143	113		325	505	360	520	140	180		94	69	110	83	100	97
COD	mg/l		89	90	58	215	68	163	137	86	91	121	103	80		180	301	130	220	73	74		66	66	77	73	50	76
Sulphate	mg/l				101		77			167			244			16.9			20		110			110	130			240
BOD	mg/l		<1															5	12	6	<2		<1	<2	2	<1	6	6
Suspended Solids (Total)	mg/l		6		15	864	9	11	4	3	10	7	15	17		77	65	70	140	10	<10		<10	15	4	<10	20	40
Total Hydrocarbons (C6-C40)	mg/l																											

Surface Water
Field Monitoring Sheet

SW6

Date monitored		**01/03/12**	**03/04/12**	**03/05/12**	**05/06/12**	**10/07/12**	**01/08/12**	**03/09/12**	**03/10/12**	**07/11/12**	**04/12/12**	**14/01/13**	**05/02/13**	**12/03/13**	**01/04/13**	**01/05/13**	**04/06/13**	**03/07/13**	**05/08/13**	**02/09/13**	**01/10/13**	**04/11/13**	**03/12/13**	**07/01/14**	**03/02/14**	**05/03/14**	**01/04/14**	**06/05/14**
Determinand	Units																										
Insitu Liquid Determinations																											
pH	pH units	8.1	8.0	8.0	7.8	8.0	7.9	7.6	7.9	8.2	7.7	7.4	7.8		8.1	8.0	8.0	7.8	7.5	7.9	7.9	7.8	8.1	7.7	8	8	7.7	7.7
Electrical Conductivity	µS/cm	1220	860	920	880	760	1020	925	660	880	470	365	1030		1100	1160	1150	1290	1080	1160	950	890	1230	890	840	855	980	975
Dissolved Oxygen	mg/l	11.7	11.9	11.4	10.9	10.3	9.9	7.8	10.6	11.4	11.9	13.6	12.0		12.5	11.0	9.4	8.1	9.6	9.4	9.6	11.9	12.5	13.7	13.5	10.9	10.88	9.5
Temperature	℃	8.0	7.1	8.7	10.3	12.9	12.9	14.4	11.0	9.0	4.7	2.9	6.1	5.7	5.7	7.5	10.4	11.5	13.7	15.6	12.4	9.8	8.20	7.3	6.9	6.9	7.3	9.3
Time of measurement	-	10:32	16:25	15:25	14:05	12:58	11:15	14:23	11:08	15:15	10:23	13:50	12:32	14:12	12:25	11:50	13:51	13:02	13:10	15:25	12:06	13:25	14:45	14:43	14:20	11:20	13:33	12:58
Comment																												
Monthly Laboratory Determinations																												
Ammonium	mg/l	0.2	0.1	0.1	<0.05	<0.05	5.2	5.8	0.2	0.1	0.1	0.1	0.1		0.1	0.3	0.2	0.5	<0.05	<0.05	0.1	0.1	< 0.05	0.16	0.15	0.06	1.33	1.65
Chloride	mg/l	130	98	100	97	65	89	97	68	74	38	46	130		160	190	240	200	190	210	170	130	150	66	130	120	170	160
COD	mg/l		58	55	76	68	80	75	54	61	38	94	44		50	44	42	60	35	43	34	59	65	49	42	53	50	49
Sulphate	mg/l	220			240			73			34						120			160			210			99		
BOD	mg/l	<2	2	3	6	<1	1	4	<2	1	<2	<2	<1		<2	1	<1	2	<2	<2	1	<2	2	1	< 2	< 2	< 2	1
Suspended Solids (Total)	mg/l	<10	10	<10	40	<10	<10	2	<10	<10	20	300	<10		<10	<10	<10	<10	<10	<10	<10	<10	< 10	<10	< 10	< 10	< 10	10
Total Hydrocarbons (C6-C40)	mg/l					0.069	<0.01		<0.01	<0.02						0.078			0.019	<0.01	0.01						

Surface Water
Field Monitoring Sheet

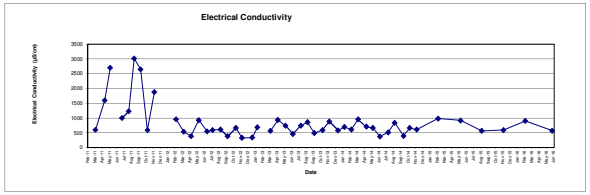
SW6

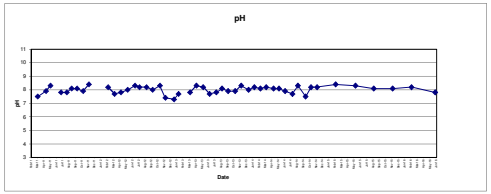
Date monitored		**02/06/14**	**01/07/14**	**05/08/14**	**02/09/14**	**08/10/14**	**03/11/14**	**02/12/14**	**02/03/15**	**02/06/15**	**01/09/15**	**01/12/15**	**01/03/16**	**27/06/16**
Determinand	Units													
Insitu Liquid Determinations														
pH	pH units	7.6	8.0	7.8	7.8	7.5	8	8	8.1	8.1	7.9	7.9	8.1	7.3
Electrical Conductivity	µS/cm	935	995	840	1230	535	830	740	1270	910	995	790	1360	800
Dissolved Oxygen	mg/l	8.6	9.0	9.3	10.3	10.1	11.3	11.1	12.66	10.87	11.2	11.6	11.97	10.03
Temperature	℃	12.3	12.7	14.6	14.6	13.2	10.9	8.7	5.7	10.1	13.2	8.2	6.8	14
Time of measurement	-	15:30	14:20	11:39	10:13	10:27	12:08	13:45	10:10	10:28	12:55	12:15	12:00	13:35
Comment														
Monthly Laboratory Determinations														
Ammonium	mg/l	0.85	0.1	0.2	0.12	0.07	0.11	0.1	0.11	0.12	0.06	0.06	0.1	0.09
Chloride	mg/l	160	160	110	110	75	110	110	120	95	110	63	130	72
COD	mg/l	45	47	47	68	77	74	70	64	69	67	70	59	70
Sulphate	mg/l	77			200			100	170	110	95	70	130	70
BOD	mg/l	1	<2	1	< 2	2	2	< 2	<2	2	<2	2	2	1
Suspended Solids (Total)	mg/l	< 10	<10	<10	< 10	< 10	< 10	< 10	<10	10	<10	<10	<10	
Total Hydrocarbons (C6-C40)	mg/l		<0.010	<0.01										

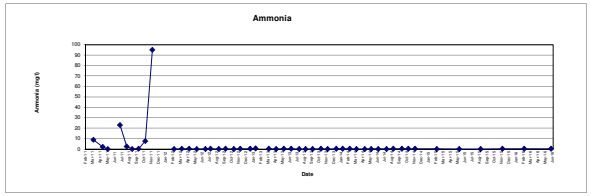
Surface Water
Field Monitoring Sheet

SW7

			April Mon																									
Date monitored		**31/03/11**	**09/05/11**	**31/05/11**	**21/06/11**	**20/07/11**	**17/08/11**	**09/09/11**	**05/10/11**	**03/11/11**	**02/12/11**	**01/01/12**	**01/02/12**	**02/03/12**	**03/04/12**	**03/05/12**	**05/06/12**	**10/07/12**	**01/08/12**	**04/09/12**	**03/10/12**	**07/11/12**	**03/12/12**	**14/01/13**	**05/02/13**	**12/03/13**	**01/04/13**	**01/05/13**
Determinand	Units																											
Insitu Liquid Determinations																												
pH	pH units	7.5	7.9	8.3		7.8	7.8	8.1	8.1	7.9	8.4			8.2	7.7	7.8	8.0	8.3	8.2	8.2	8.0	8.3	7.4	7.3	7.7			7.8	8.3
Electrical Conductivity	µS/cm	600	1600	2700		1000	1230	3010	2650	590	1880			955	540	390	930	550	595	615	385	665	330	340	685			570	940
Dissolved Oxygen	mg/l	11	9.6	9.9		6.9	8.7	9.8	9.7	9.5	10.2			11.8	12.3	11.0	10.3	10.6	10.6	9.9	10.8	11.8	11.1	13.2	11.4			11.7	12.1
Temperature	℃	9.00	12.50	15.50	13.50	15.0	15.0	12.5	13.5	12.0	7.4			6.7	5.9	8.6	8.9	12.1	14.9	14.6	11.8	8.8	4.0	3.2	4.6	4.2	4.2	8.1
Time of measurement	-	14:00	11:00	15:15	10:49	13:20	14:28	09:35	10:55	14:05	10:32			09:52	10:15	14:40	14:05	11:00	12:45	09:45	12:05	10:03	10:32	12:05	14:35	14:12	14:06	13:30
Comment																												
Monthly Laboratory Determinations																												
Ammonium	mg/l	8.7	2.03	<0.05		22.9	2.3	0.1	0.1	7.7	95.2			<0.05	0.2	0.3	<0.05	0.1	0.1	<0.05	0.1	<0.05	0.2	0.2	0.6		0.1	<0.05
Chloride	mg/l	49	140	340		79	110	430	350	81	220			74	68	37	75	35	31	35	45	47	29	36	59		84	130
COD	mg/l	86	110	140		92	110	300	220	150	120				63	120	120	64	86	72	49	61	40	78	250		57	60
Sulphate	mg/l	57						6			53			210			200			85			34					
BOD	mg/l	2	<3	3		2	<2	3	5	5	4			<2	2	3	<2	<1	2	<1	3	<1	2	<2	4		<2	1
Suspended Solids (Total)	mg/l	200	40	20		15	20	45	35	1000	50			15	25	360	<10	10	190	6	90	20	600	330	1300		65	<10
Total Hydrocarbons (C6-C40)	mg/l																	<0.040	0.03		0.018	<0.02						<0.01







Surface Water
Field Monitoring Sheet

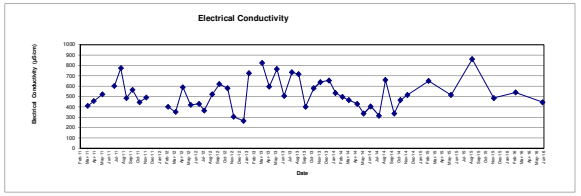
SW7

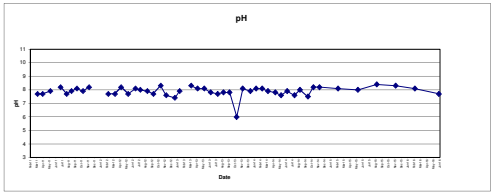
Date monitored		**03/06/13**	**03/07/13**	**05/08/13**	**02/09/13**	**01/10/13**	**04/11/13**	**02/12/13**	**07/01/14**	**03/02/14**	**04/03/14**	**01/04/14**	**06/05/14**	**02/06/14**	**01/07/14**	**05/08/14**	**01/09/14**	**08/10/14**	**03/11/14**	**02/12/14**	**02/03/15**	**04/06/15**	**01/09/15**	**01/12/15**	**01/03/16**	**21/06/16**
Determinand	Units																									
Insitu Liquid Determinations																										
pH	pH units	8.2	7.7	7.8	8.1	7.9	7.9	8.3	8	8.2	8.1	8.2	8.1	8.1	7.9	7.7	8.3	7.5	8.2	8.2	8.4	8.3	8.1	8.1	8.2	7.8
Electrical Conductivity	µS/cm	745	460	740	860	490	595	885	585	700	615	955	710	665	380	515	845	400	665	615	985	920	565	595	900	575
Dissolved Oxygen	mg/l	9.4	8.4	9.5	8.3	10.2	12.6	13.7	13.9	13.8	12.9	10.74	10.5	9.4	8.9	8.4	9.7	10.4	11.5	13.3	12.62	10.92	9.6	11.6	12.16	9.93
Temperature	ºC	10.7	12.7	14.3	17.3	12.4	9.1	7.80	7.2	6.7	6.5	7.3	8.7	11.7	12.7	14.3	16.9	12.3	10.5	8.1	6	9.3	14.2	8	7.5	13.2
Time of measurement	-	10:25	14:50	15:00	14:29	11:25	15:00	15:30	14:05	13:40	11:05	14:20	14:00	10:35	10:51	13:35	12:55	10:05	13:46	10:30	10:10	10:05	14:45	11:50	13:40	12:20
Comment																										
Monthly Laboratory Determinations																										
Ammonium	mg/l	0.2	0.2	<0.05	<0.05	<0.05	0.2	< 0.05	0.16	0.11	0.19	< 0.05	0.05	0.06	0.1	0.1	0.22	0.16	0.2	0.21	0.07	<0.05	<0.05	0.17	0.19	0.24
Chloride	mg/l	110	42	77	95	51	68	89	65	100	88	90	61	67	23	38	69	46	64	74	81	60	42	44	78	40
COD	mg/l	55	57	72	82	40	63	78	76	48	60	96	73	62	34	68	94	68	85	75	91	93	100	63	87	76
Sulphate	mg/l	100			170			140			57			87			120			63	110	77	46	37	58	36
BOD	mg/l	<1	2	2	<2	2	2	2	1	< 2	1	< 2	<2	2	<2	4	2	3	2	< 2	<2	2	<2	2	2	2
Suspended Solids (Total)	mg/l	<10	85	20	<10	<10	<10	< 10	160	< 10	10	< 10	<10	< 10	40	<10	< 10	< 10	15	< 10	<10	10	<10	<10	<10	
Total Hydrocarbons (C6-C40)	mg/l			<0.01	<0.01	<0.010									<0.01	0.029										

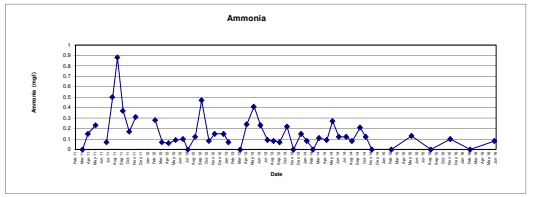
Surface Water
Field Monitoring Sheet

SW8

Date monitored		31/03/11	25/04/11	31/05/11	21/06/11	20/07/11	17/08/11	09/09/11	05/10/11	03/11/11	02/12/11	01/01/12	01/02/12	02/03/12	03/04/12	03/05/12	05/06/12	10/07/12	01/08/12	04/09/12	03/10/12	07/11/12	03/12/12	14/01/13	05/02/13	12/03/13	01/04/13	01/05/13
Determinand	Units																											
Insitu Liquid Determinations																												
pH	pH units	7.7	7.7	7.9		8.2	7.7	7.9	8.1	7.9	8.2			7.7	7.7	8.2	7.7	8.1	8.0	7.9	7.7	8.3	7.6	7.4	7.9		8.3	8.1
Electrical Conductivity	µS/cm	410	455	520		600	775	485	565	445	490			400	350	590	420	430	365	520	620	580	305	265	725		825	595
Dissolved Oxygen	mg/l	11.1	8.5	8.8		9.0	9.4	9.3	10.3	9.9	11.7			11.0	12.2	13.1	9.6	9.9	10.0	8.2	10.6	11.9	14.1	13.5	11.4		13.0	11.1
Temperature	℃	8.80	8.50	12.00	12.00	14.0	14.0	12.0	13.0	12.0	6.7			6.3	6.5	11.1	9.9	12.5	13.8	14.0	11.3	8.1	2.1	3.1	5.6	5.2	4.0	8.0
Time of measurement	-	14:10	11:40	15:11	10:58	13:05	14:32	09:25	10:46	13:30	10:15			09:58	10:25	14:47	13:50	11:17	12:40	10:15	11:58	09:55	10:18	12:10	14:43	14:01	14:10	13:25
Comment																												
Monthly Laboratory Determinations																												
Ammonium	mg/l	<1.5	0.15	0.23		0.1	0.5	0.9	0.4	0.2	0.3			0.3	0.1	0.1	0.1	0.1	<0.05	0.1	0.5	0.1	0.2	0.2	0.1		<0.05	0.2
Chloride	mg/l	36	39	36		38	69	41	44	60	72			43	40	48	33	35	25	37	59	40	20	23	75		94	82
COD	mg/l	140	56	42		89	64	91	84	80	76				70	59	62	110	80	95	59	71	45	58	60		69	23
Sulphate	mg/l	47						84			62			51			38			67			51					
BOD	mg/l	3	2	<2		<1	<2	<2	<1	3	<2			<2	2	2	<2	1	2	<1	5	2	2	<2	2		<2	<1
Suspended Solids (Total)	mg/l	660	20	20		<10	20	10	<10	130	100			60	15	<10	<10	32	25	92	5000	220	1500	430	30		<10	100
Total Hydrocarbons (C6-C40)	mg/l																	<0.04	0.02		<0.10	<0.02						<0.02







Surface Water
Field Monitoring Sheet

SW8

Date monitored		**03/06/13**	**03/07/13**	**05/08/13**	**02/09/13**	**01/10/13**	**04/11/13**	**02/12/13**	**07/01/14**	**03/02/14**	**04/03/14**	**01/04/14**	**06/05/14**	**02/06/14**	**01/07/14**	**05/08/14**	**01/09/14**	**08/10/14**	**03/11/14**	**02/12/14**	**02/03/15**	**04/06/15**	**01/09/15**	**01/12/15**	**01/03/16**	**22/06/16**
Determinand	Units																									
Insitu Liquid Determinations																										
pH	pH units	8.1	7.8	7.7	7.8	7.8	6.0	8.1	7.9	8.1	8.1	7.9	7.8	7.6	7.9	7.6	8	7.5	8.2	8.2	8.1	8	8.4	8.3	8.1	7.7
Electrical Conductivity	µS/cm	765	505	735	715	400	580	640	655	535	495	465	430	335	405	315	660	335	465	515	650	515	860	485	540	445
Dissolved Oxygen	mg/l	8.4	9.7	7.7	6.5	9.7	12.3	12.4	13.5	12.7	12.5	10.78	10	7.8	8.3	7.1	9.4	10.3	11.7	12.5	10.63	9.66	11.2	12	10.66	9.2
Temperature	ºC	9.3	12.1	15.1	16.3	12.4	9.4	7.10	7.2	6.7	6.3	7.3	9.5	14.3	13.1	15.4	16.9	12.9	10.7	8	5.3	9.3	13.7	8.1	5.9	13.5
Time of measurement	-	10:36	15:00	14:55	14:29	11:19	14:55	15:30	14:12	13:30	11:20	14:28	13:55	10:55	10:47	13:25	12:40	10:00	13:42	10:35	10:10	09:45	12:50	11:45	13:45	14:03
Comment																										
Monthly Laboratory Determinations																										
Ammonium	mg/l	0.4	0.2	0.1	0.1	0.1	0.2	< 0.05	0.15	0.08	< 0.05	0.11	0.09	0.27	0.1	0.1	0.08	0.21	0.12	< 0.05	<0.05	0.13	<0.05	0.1	<0.05	0.08
Chloride	mg/l	93	32	75	65	30	54	60	87	69	57	50	32	20	20	15	53	35	42	57	57	33	47	35	50	29
COD	mg/l	73	30	86	91	45	75	75	55	53	66	63	57	37	54	40	96	84	74	81	77	71	110	73	65	81
Sulphate	mg/l	110			132			100			49			60			120			58	60	46	49	29	28	30
BOD	mg/l	2	2	<2	<2	2	2	2	1	< 2	< 2	< 2	2	2	2	3	2	4	3	3	<2	3	<2	3	2	<2
Suspended Solids (Total)	mg/l	40	<10	15	60	<10	55	< 10	15	10	20	< 10	15	20	<10	15	< 10	25	45	30	15	25	<10	55	<10	
Total Hydrocarbons (C6-C40)	mg/l			<0.01	<0.01	<0.01									<0.01	0.01										

APPENDIX C:

C4 – Ness Farm Annual Chemical Data

Determinand	Environmental Acceptance Limits (mg/l)	Leachate Completion Criteria (mg/l)	Trigger Level (mg/l)	Trigger Level (ug/l)	Control Level (mg/l)	Control Level (ug/l)	Units	External Wells - Up Hydraulic Gradient (Background Groundwater Wells)														
								N63					N65					N103				
List 1								Sep-14	Dec-14	Jun-15	Dec-15	Jun-16	Sep-14	Dec-14	Jun-15	Dec-15	Jun-16	Sep-14	Dec-14	Jun-15	Dec-15	Jun-16
PCBs / PCTs	0.000005		0.000005	0.005	0.000005	0.005	ng/ug/l	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 2.000	< 0.003	< 0.003	< 0.003		< 0.006	< 0.003	< 0.003	< 0.003
Chlorobenzene	0.3		0.3	300	0.3	300	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	0.0001		0.0001	0.1	0.0001	0.1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	0.0001		0.0001	0.1	0.0001	0.1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
Dichloroprop	0.0001		0.0001	0.1	0.0001	0.1	ug/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.50	< 0.05	< 0.05	< 0.10		< 0.50	< 0.05	< 0.05	< 0.05
Mercury	0.00001		0.00001	0.01	0.00001	0.01	ug/l	< 0.100	< 0.100	< 0.100	0.17	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100		< 0.100	< 0.100	< 0.100	< 0.100
Cadmium	0.0001		0.001	1	0.001	1	ug/l	< 0.200	< 0.070	< 0.070	< 0.070	< 0.070	< 0.200	0.09	< 0.070	< 0.070	< 0.070		0.09	0.21	0.07	0.16
Cyanide	0.05		0.05	50	0.05	50	ug/l	< 9.0	< 9	< 9	< 0.009	<9	< 9.0	< 9	< 9	< 0.009	36		< 9	< 9	< 0.009	<9
Benzo(a)Pyrene	0.00001		0.00001	0.01	0.00001	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02		< 0.04	< 0.01	< 0.01	< 0.04
2,4-Dimethylphenol	0.73		0.73	730	0.73	730	ug/l	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1		< 4	< 1	< 1	< 1
4-Methylphenol	0.18		0.18	180	0.18	180	ug/l	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	11		< 4	< 1	< 1	< 1
Acenaphthene	2.57		2.57	2570	2.57	2570	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02		< 0.04	< 0.01	< 0.01	< 0.04
Acenaphthylene	4		4	4000	4	4000	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02		< 0.04	< 0.01	< 0.01	< 0.04
Anthracene	0.071		0.071	71	0.071	71	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02		< 0.04	< 0.01	< 0.01	< 0.04
Bentazone	0.1		0.1	100	0.1	100	ug/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.50	< 0.05	< 0.05	< 0.10		< 0.50	< 0.05	< 0.05	< 0.05
Benzene	0.001		0.001	1	0.001	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
Benzo(ghi)perylene	0.00019		0.00019	0.19	0.00019	0.19	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02		< 0.04	< 0.01	< 0.01	< 0.04
Benzo(a)anthracene	0.012		0.012	12	0.012	12	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02		< 0.04	< 0.01	< 0.01	< 0.04
Benzo(b)fluoranthene	0.017		0.017	17	0.017	17	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02		< 0.04	< 0.01	< 0.01	< 0.04
Benzo(k)fluoranthene	0.00048		0.00048	0.48	0.00048	0.48	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02		< 0.04	< 0.01	< 0.01	< 0.04
bis(2-ethylhexyl)phthalate	0.0048		0.0048	4.8	0.0048	4.8	ug/l	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5		< 20	< 5	< 5	< 5
Chrysene	0.0018		0.0018	1.8	0.0018	1.8	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02		< 0.04	< 0.01	< 0.01	< 0.04
Cis-1,2-dichloroethene	0.061		0.061	61	0.061	61	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
Dibenz(a,h)anthracene	0.00083		0.00083	0.83	0.00083	0.83	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02		< 0.04	< 0.01	< 0.01	< 0.04
Ethyl Benzene	5.6		5.6	5600	5.6	5600	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
Fluoranthene	0.2		0.2	200	0.2	200	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02		< 0.04	< 0.01	< 0.01	< 0.04
Fluorene	2.2		2.2	2200	2.2	2200	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02		< 0.04	< 0.01	< 0.01	< 0.04
Indeno(1,2,3-cd)pyrene	0.00026		0.00026	0.26	0.00026	0.26	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02		< 0.04	< 0.01	< 0.01	< 0.04
Mecoprop	0.00004		0.00004	0.04	0.00004	0.04	ug/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.40	< 0.05	< 0.05	< 0.08		< 0.40	< 0.05	< 0.05	< 0.05
Methyl Tert Butyl Ether	0.0026		0.0026	2.6	0.0026	2.6	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	0.01		0.01	10	0.01	10	ug/l	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04		< 0.04	< 0.04	< 0.04	< 0.04
Pyrene	0.106		0.106	106	0.106	106	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02		< 0.04	< 0.01	< 0.01	< 0.04
m,p-xylene	0.003		0.003	3	0.003	3	ug/l	< 1.0	< 10.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	0.003		0.003	3	0.003	3	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
List 2																						
Ammonium	0.5	17	0.5		15		mg/l	< 0.05	< 0.05	3.1	< 0.05	0.06	< 0.05	< 0.05	0.1	< 0.05	0.75		< 0.05	0.34	0.34	0.26
Antimony	0.005		0.005				mg/l	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		< 0.005	< 0.005	< 0.005	< 0.005
Arsenic	0.05		0.05				mg/l	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	0.004	< 0.003	< 0.003	0.004	0.004		0.011	0.008	< 0.005	0.003
Barium	1		1				mg/l	0.18	0.1	0.75	0.18	0.19	0.1	0.07	0.08	0.11	0.09		3.45	2.22	1.12	0.66
Berylium	0.015		0.015				mg/l	< 0.0021	< 2.1	<0.0021	< 0.0021	< 0.0021	< 0.0021	< 2.1	<0.0021	< 0.0021	< 0.0021		< 2.1	<0.0021	< 0.0021	< 0.0021
Boron	1		5				mg/l	0.4	< 0.6	< 0.6	< 0.6	0.3	< 0.3	< 0.6	0.7	< 0.6	0.2		< 0.6	< 0.5	< 0.5	< 0.1
Chloroethane	0.036		0.036				ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.1		< 1.0	< 1.0	< 1.0	< 1.0
Cobalt	0.361		0.361				mg/l	< 0.002	0.006	< 0.015	0.004	0.005	0.022	0.014	0.004	0.047	0.025		0.064	0.062	0.057	0.047
Copper	2		2				mg/l	< 0.010	< 0.010	0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010		0.046	0.036	0.014	0.011
Fenoprop	0.001		0.001	1			ug/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.50	< 0.05	< 0.05	< 0.10		< 0.50	< 0.05	< 0.05	< 0.05
Fluoride	1.5		1.5				mg/l	0.22	< 0.15	120	< 0.15	0.15	0.21	< 0.15	< 0.15	< 0.15	0.15		< 0.15	130	< 0.15	< 0.15
Lead	0.01		0.011				mg/l	< 0.005	< 0.010	0.008	0.008	< 0.008	0.041	0.012	0.018	0.034	< 0.013		0.027	< 0.010	0.006	0.003
Molybdenum	0.07		0.07				mg/l	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		< 0.005	< 0.005	< 0.005	< 0.005
Nickel	0.02		0.06				mg/l	0.013	0.007	0.018	0.009	0.011	0.025	0.009	0.011	0.021	0.017		0.05	0.041	0.027	0.015
Nitrate	50		50				mg/l	15	21	16	20	33	< 3	< 3	< 3	< 3	< 3		< 3	< 3	< 3	5
PAH (Total)	0.0001		0.0001	0.1			ug/l	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.011	< 0.010	< 0.020		< 0.040	< 0.010	< 0.010	< 0.040
Phenanthrene	0.85		0.85	850			ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02		< 0.04	< 0.01	< 0.01	< 0.04
Phosphorous	2.2		2.2				mg/l	0.105	< 0.050	0.237	0.072	0.141	0.122	< 0.050	0.67	0.19	0.23		0.829	0.643	0.36	0.34
Selenium	0.01		0.01				mg/l	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		< 0.005	< 0.005	< 0.005	< 0.005
Titanium	-		0.044				mg/l	0.026	0.015	0.196	0.032	0.033	0.11	0.015	0.05	0.148	0.093		0.704	0.572	0.285	0.02
Tellurium	0.07		0.07	70			ug/l	< 0.11	< 0.38	< 0.38	< 0.38	< 0.38	< 0.11	< 0.38	< 0.38	< 0.38	< 0.38		< 0.38	< 0.38	< 0.38	< 0.38
Thallium	0.007		0.007				mg/l	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.010	< 0.003	< 0.003	< 0.010	< 0.010		< 0.010	< 0.010	< 0.010	< 0.003
TPH C_6-C_{40}	0.01	2	0.521		0.25		mg/l	0.011	0.015	0.35	0.03	< 0.010	0.015	0.034	0.086	0.122	< 0.020		< 0.040	< 0.010	< 0.010	< 0.040
Uranium	0.009		0.009	9			ug/l	< 0.110	< 0.310	< 0.310	< 0.310	< 0.310	0.145	< 0.310	< 0.310	< 0.310	< 0.310		< 0.310	0.87	< 0.310	0.53
Vanadium	0.02-0.06		0.04				mg/l	< 0.010	< 0.010	< 0.020	< 0.010	< 0.010	< 0.010	< 0.002	< 0.010	0.006	< 0.008		0.03	0.024	< 0.015	0.005
Zinc	5		5				mg/l	< 0.05	0.02	0.03	0.01	0.02	< 0.05	0.01	0.01	0.02	0.03		0.11	0.08	0.05	0.02
Indicator Parameters																						
Electrical Conductivity (µs/cm)	250		2500		2000		µs/cm	285	270	290	300	300	315	155	290	165	185		320	355	370	345
Chloride	250	990	250		600		mg/l	65	62	60	44	57	49	38	51	33	36		80	71	79	120
Sulphate	250		250				mg/l	30	33	28	27	24	14	11	13	6	5		18	26	19	32
Sodium	200	800	200		500		mg/l	45	43.3	41.3	37.8	40.3	33.5	24.5	45.8	22.8	23.6		48.3	49.8	50.2	34
Potassium	12	70	18		200		mg/l	4.4	2.7	4.5	2.5	4.1	4.3	1.5	10.1	2.6	3.1		9.6	8.6	5.3	2.4
Calcium	250	800	250		150		mg/l	5.8	5.5	5.7	4.7	6.1	21.9	3.6	14.1	5.7	4.2		11.2	10.8	9.6	8.5
Magnesium	50	195	50		70		mg/l	6.4	6.5	8	6	7.3	10.7	3.1	8.8	4.7	3.7		13.8	12.4	11	8.5
Manganese	0.05		2.9				mg/l	0.139	0.226	0.197	0.144	0.184	3.74	0.738	0.483	2.84	1.92		4.85	4.38	4.31	3.8
Iron	0.2		11.58				mg/l	0.8	0.416	7.95	0.877	1.54	3.81	0.457	3.01	4.47	12.7		27.1	18.4	13.8	5.3
Chromium	0.05		0.05				mg/l	< 0.002	< 0.002	0.011	< 0.002	0.003	0.01	< 0.002	0.006	0.009	0.007		0.027	0.021	0.009	0.003
Dissolved Oxygen							%															
Dissolved Oxygen							mg/l	9.7	9.3	8.8	9	9	9.1	9.3	6.7	5.9	5.2		8.5	4.3	5.8	4.4
Total Suspended Solids							mg/l															
Biochemical Oxygen Demand (BOD)							mg/l															
Chemical Oxygen Demand (COD)							mg/l															
Total Organic Carbon							mg/l	5	11	29	16	5	< 3	7	< 3	9	3		8	21	17	4
Total Organic Nitrogen							mg/l	14.9	20.8	16.7	20	33.8	1.9	0.6	1	< 0.5	< 0.5		1.8	< 0.5	< 0.5	4.9
pH							-	5.4	5.3	6	5.5	5.3	6.2	5.2	6.1	5.6	5.3		5.6	5.7	5.6	5.1
Tritium			100				Bq/l	<70	< 70	< 70	< 70	< 14	<70	< 70	< 70	< 70	< 14	<70	< 70	< 14	<70	< 70

* Tritium concentrations for all wells not given. Discussed and summarised in annual report instead

Determinand	Environmental Acceptance Limits (mg/l)	Leachate Completion Criteria (mg/l)	Trigger Level (mg/l)	Trigger Level (ug/l)	Control Level (mg/l)	Control Level (ug/l)	Units	Internal Monitoring Wells (Phase 3 & 4)																	Internal Monitoring Wells (Phase 2 Capped Area)		
								N28		N31			N39			N93			N94			N113			N62A		
List 1								Sep-14	Jun-15	Sep-14	Jun-15	Jun-16	Sep-14	Jun-15	Jun-16	Sep-14	Jun-15	Jun-16	Sep-14	Jun-15	Jun-16	Jun-15	Jun-16	Sep-14	Jun-15	Jun-16
PCBs / PCTs	0.000005		0.000005	0.005	0.000005	0.005	ng/ug/l		< 0.051	< 0.006	< 0.006	< 0.051	< 0.006	< 0.006	< 0.003	< 0.006	< 0.051	0.011		< 0.051	< 0.250	0.649	0.425	< 0.232	< 1.100	< 1.300
Chlorobenzene	0.3		0.3	300	0.3	300	ug/l		< 10.0	3.1	< 10.0	< 40.0	< 4.0	< 10.0	< 10.0	< 20.0	< 10.0	< 20.0		< 10.0	< 20.0	< 10.0	< 20.0	< 20.0	< 40.0	< 40.0
Trichloroethene	0.0001		0.0001	0.1	0.0001	0.1	ug/l		< 10.0	< 2.0	< 10.0	< 40.0	< 4.0	< 10.0	< 10.0	< 20.0	< 10.0	< 20.0		< 10.0	< 20.0	< 10.0	< 20.0	< 20.0	< 40.0	< 40.0
Tetrachloroethene	0.0001		0.0001	0.1	0.0001	0.1	ug/l		< 10.0	< 2.0	< 10.0	< 40.0	< 4.0	< 10.0	< 10.0	< 20.0	< 10.0	< 20.0		< 10.0	< 20.0	< 10.0	< 20.0	< 20.0	< 40.0	< 40.0
Dichloroprop	0.0001		0.0001	0.1	0.0001	0.1	ug/l		< 0.50	< 0.20	< 0.20	< 2.00	< 0.50	< 0.20	< 5.00	< 1.00	< 0.20	< 5.00		< 0.50	< 5.00	< 0.20	< 2.00	3.55	< 2.00	< 5.00
Mercury	0.00001		0.00001	0.01	0.00001	0.01	ug/l		< 0.100	< 0.100	< 0.100	0.22	0.16	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100		< 0.100	< 0.100	< 0.100	0.36	< 0.100	< 0.100	< 0.100
Cadmium	0.0001		0.001	1	0.001	1	ug/l		24	0.41	0.13	0.38	< 0.200	< 0.070	< 0.070	0.59	0.1	< 0.070			0.37	3.76	0.81	< 0.200	< 0.700	< 0.350
Cyanide	0.05		0.05	50	0.05	50	ug/l		< 9	< 9.0	< 9	31	< 9.0	< 9	<9	< 9.0	< 9	11		< 9	<9	< 9	15	407	162	746
Benzo(a)Pyrene	0.00001		0.00001	0.01	0.00001	0.01	ug/l		< 0.10	< 0.04	< 0.10	< 0.10	< 0.10	< 0.10	< 0.04	0.15	< 0.04	< 0.04		< 0.10	< 0.10	< 0.10	< 0.10	0.15	0.24	0.18
2,4-Dimethylphenol	0.73		0.73	730	0.73	730	ug/l		< 20	< 2	< 4	< 4	< 2	< 2	< 2	< 4	< 4	< 2		< 4	< 20	< 4	< 10	< 100	< 20	< 20
4-Methylphenol	0.18		0.18	180	0.18	180	ug/l		40	< 2	< 4	60	< 2	< 2	< 2	< 4	< 4	< 2		< 4	515	< 4	< 10	< 100	< 20	< 20
Acenaphthene	2.57		2.57	2570	2.57	2570	ug/l		0.32	0.1	< 0.10	0.11	0.21	0.24	0.15	0.58	0.69	< 0.04		< 0.10	4.76	0.66	0.9	0.6	0.45	0.5
Acenaphthylene	4		4	4000	4	4000	ug/l		< 0.10	< 0.04	< 0.10	< 0.10	< 0.10	< 0.10	< 0.04	< 0.10	< 0.04	< 0.04		< 0.10	0.14	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	0.071		0.071	71	0.071	71	ug/l		< 0.10	< 0.04	< 0.10	< 0.10	< 0.10	< 0.10	< 0.04	< 0.10	< 0.04	< 0.04		< 0.10	0.13	< 0.10	< 0.10	0.1	0.1	0.11
Bentazone	0.1		0.1	100	0.1	100	ug/l		< 0.50	< 0.20	< 0.20	< 2.00	< 0.50	< 0.20	< 5.00	< 1.00	< 0.20	< 5.00		< 0.50	< 5.00	< 0.20	< 2.00	< 3.00	< 2.00	< 5.00
Benzene	0.001		0.001	1	0.001	1	ug/l		< 10.0	< 2.0	< 10.0	< 40.0	< 4.0	< 10.0	< 10.0	< 20.0	< 10.0	< 20.0		< 10.0	< 20.0	< 10.0	< 20.0	< 20.0	< 40.0	< 40.0
Benzo(ghi)perylene	0.00019		0.00019	0.19	0.00019	0.19	ug/l		< 0.10	< 0.04	< 0.10	< 0.10	< 0.10	< 0.10	< 0.04	0.12	< 0.04	< 0.04		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.11	0.11
Benzo(a)anthracene	0.012		0.012	12	0.012	12	ug/l		< 0.10	< 0.04	< 0.10	< 0.10	< 0.10	< 0.10	< 0.04	0.11	< 0.04	< 0.04		< 0.10	< 0.10	< 0.10	< 0.10	0.15	0.26	0.21
Benzo(b)fluoranthene	0.017		0.017	17	0.017	17	ug/l		< 0.10	< 0.04	< 0.10	< 0.10	< 0.10	< 0.10	< 0.04	0.14	< 0.04	< 0.04		< 0.10	< 0.10	< 0.10	< 0.10	0.15	0.19	0.14
Benzo(k)fluoranthene	0.00048		0.00048	0.48	0.00048	0.48	ug/l		< 0.10	< 0.04	< 0.10	< 0.10	< 0.10	< 0.10	< 0.04	< 0.10	< 0.04	< 0.04		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
bis(2-ethylhexyl)phthalate	0.0048		0.0048	4.8	0.0048	4.8	ug/l		< 100	< 10	< 20	< 20	< 10	< 10	< 10	< 20	< 20	< 10		< 20	< 100	< 20	< 50	< 500	< 100	< 100
Chrysene	0.0018		0.0018	1.8	0.0018	1.8	ug/l		< 0.10	< 0.04	< 0.10	< 0.10	< 0.10	< 0.10	< 0.04	0.1	< 0.04	< 0.04		< 0.10	< 0.10	< 0.10	< 0.10	0.16	0.24	0.24
Cis-1,2-dichloroethene	0.061		0.061	61	0.061	61	ug/l		< 10.0	< 2.0	< 10.0	< 40.0	< 4.0	< 10.0	< 10.0	< 20.0	< 10.0	< 20.0		< 10.0	< 20.0	< 10.0	< 20.0	< 20.0	< 40.0	< 40.0
Dibenz(a,h)anthracene	0.00083		0.00083	0.83	0.00083	0.83	ug/l		< 0.10	< 0.04	< 0.10	< 0.10	< 0.10	< 0.10	< 0.04	< 0.10	< 0.04	< 0.04		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Ethyl Benzene	5.6		5.6	5600	5.6	5600	ug/l		< 10.0	< 2.0	< 10.0	< 40.0	< 4.0	< 10.0	< 10.0	< 20.0	< 10.0	< 20.0		< 10.0	< 20.0	< 10.0	< 20.0	< 20.0	< 40.0	< 40.0
Fluoranthene	0.2		0.2	200	0.2	200	ug/l		< 0.10	< 0.04	< 0.10	< 0.10	< 0.10	< 0.10	< 0.04	0.43	< 0.04	< 0.04		< 0.10	0.23	< 0.10	< 0.10	0.57	0.72	0.6
Fluorene	2.2		2.2	2200	2.2	2200	ug/l		0.26	0.09	< 0.10	0.1	0.12	0.13	0.07	0.35	0.32	< 0.04		< 0.10	2.05	0.45	0.67	0.38	0.3	0.33
Indeno(1,2,3-cd)pyrene	0.00026		0.00026	0.26	0.00026	0.26	ug/l		< 0.10	< 0.04	< 0.10	< 0.10	< 0.10	< 0.10	< 0.04	< 0.10	< 0.04	< 0.04		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Mecoprop	0.00004		0.00004	0.04	0.00004	0.04	ug/l		12.9	3.03	1.5	3.29	3.87	3.45	5.45	8.28	5.33	6.46		7.85	4.98	28.5	19.7	71.3	68.9	121
Methyl Tert Butyl Ether	0.0026		0.0026	2.6	0.0026	2.6	ug/l		< 10.0	< 2.0	< 10.0	< 40.0	< 4.0	< 10.0	< 10.0	< 20.0	< 10.0	< 20.0		< 10.0	< 20.0	< 10.0	< 20.0	< 20.0	< 40.0	< 40.0
Naphthalene	0.01		0.01	10	0.01	10	ug/l		< 0.10	0.16	< 0.10	0.53	0.24	< 0.10	< 0.04	< 0.10	0.24	< 0.04		< 0.10	39	4.78	4.18	6.03	3.59	3.45
Pyrene	0.106		0.106	106	0.106	106	ug/l		< 0.10	< 0.04	< 0.10	< 0.10	< 0.10	< 0.10	< 0.04	0.54	< 0.04	0.04		< 0.10	0.21	< 0.10	< 0.10	0.56	0.73	0.58
m,p-xylene	0.003		0.003	3	0.003	3	ug/l		< 10.0	< 2.0	< 10.0	< 40.0	< 4.0	< 10.0	< 10.0	< 20.0	< 10.0	< 20.0		< 10.0	24.1	17.9	< 20.0	< 20.0	< 40.0	< 40.0
o-xylene	0.003		0.003	3	0.003	3	ug/l		< 10.0	< 2.0	< 10.0	< 40.0	< 4.0	< 10.0	< 10.0	< 20.0	< 10.0	< 20.0		< 10.0	< 20.0	< 10.0	< 20.0	< 20.0	< 40.0	< 40.0
List 2																											
Ammonium	0.5	17	0.5		15		mg/l			24	26.9	0.56	157	196	0.74	471	232	254		870	525	124	0.1	5880	7060	0.18
Antimony	0.005		0.005				mg/l			< 0.010	< 0.005	0.011	< 0.005	< 0.010	< 0.005	< 0.010	< 0.010	< 0.010		< 0.010	< 0.010	0.08	<0.005	0.032	0.043	0.047
Arsenic	0.05		0.05				mg/l			0.036	0.027	0.063	0.035	0.019	0.019	0.014	0.004	< 0.015		0.139	0.026	0.141	0.006	< 0.015	0.044	0.033
Barium	1		1				mg/l			0.86	0.69	1.16	0.63	0.57	0.5	1.47	1.2	1.13		0.63	0.67	11	24	0.63	0.81	0.52
Berylium	0.015		0.015				mg/l		<0.0021	< 0.0021	<0.0021	< 0.0021	< 0.0021	<0.0021	< 0.0021	< 0.0021	<0.0021	< 0.0021			< 0.0021	<0.0021	< 0.0021	< 0.0021	<0.0021	< 0.0021
Boron	1		5				mg/l			0.4	1	0.3	0.8	1.3	0.9	2	1.8	1.7		2.7	1.4	1.4	0.7	4.9	5.5	4.4
Chloroethane	0.036		0.036				ug/l		< 10.0	18.4	91.3	97.6	< 4.0	< 10.0	< 10.0	< 20.0	< 10.0	< 20.0		< 10.0	< 20.0	< 10.0	< 20.0	< 20.0	< 40.0	< 40.0
Cobalt	0.361		0.361				mg/l			0.054	0.046	0.156	0.016	< 0.015	< 0.015	0.021	< 0.015	< 0.015		0.018	< 0.015	0.054	0.02	0.034	0.058	0.039
Copper	2		2				mg/l				0.029	0.134		< 0.010	< 0.010		0.016	< 0.010		0.016	0.072	0.165	0.083		0.122	0.043
Fenoprop	0.001		0.001	1			ug/l		< 0.50	< 0.20	< 0.20	< 2.00	< 0.50	< 0.20	< 5.00	< 1.00	< 0.20	< 5.00		< 0.50	< 5.00	< 0.20	< 2.00	< 1.00	< 2.00	< 5.00
Fluoride	1.5		1.5				mg/l			< 0.15	200	0.4	< 0.15	120	< 0.15	< 0.15	240	< 0.15		44		0.19	< 0.15	< 0.15	< 0.15	< 0.300
Lead	0.01		0.011				mg/l				0.015	0.051		< 0.005	< 0.013		0.017	< 0.016		0.012	< 0.044	0.503	0.054		0.068	< 0.045
Molybdenum	0.07		0.07				mg/l			< 0.005	< 0.005	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		< 0.005	0.009	0.019	< 0.005	0.007	0.006	0.008
Nickel	0.02		0.06				mg/l				0.046	0.126		0.01	0.017		0.021	0.018		0.04	0.047	0.23	0.073		0.279	0.202
Nitrate	50		50				mg/l			< 3	< 3	< 3	< 3	< 3	< 3	3	< 3	< 3		< 3	< 3	< 3	< 3	28	< 10	260
PAH (Total)	0.0001		0.0001	0.1			ug/l		0.808	0.413	< 0.100	0.746	0.567	0.363	0.215	2.85	1.43	0.044		< 0.100	48	6.24	6.02	9.58	7.67	7.11
Phenanthrene	0.85		0.85	850			ug/l		0.24	0.06	< 0.10	< 0.10	< 0.10	< 0.10	< 0.04	0.35	0.19	< 0.04		< 0.10	1.08	0.34	0.27	0.73	0.75	0.66
Phosphorous	2.2		2.2				mg/l			1.65	0.948	2.5	2.16	0.949	1.32	1.78	0.778	0.773		2.58	5.73	73.8	7	39	70.8	43.1
Selenium	0.01		0.01				mg/l			< 0.010	0.008	< 0.007	< 0.010	< 0.025	< 0.005	< 0.025	< 0.025	< 0.025		< 0.025	< 0.025	< 0.025	< 0.005	< 0.025	< 0.025	< 0.025
Titanium	-		0.044				mg/l			1.4	0.284	1.87	1.02	0.05	0.087	0.941	0.295	0.136		0.098	0.257	2.12	0.083	0.188	0.193	0.141
Tellurium	0.07		0.07	70			ug/l		< 0.38	< 0.11	< 0.38	0.74	< 0.11	< 0.38	< 0.38	< 0.11	< 0.38	0.88			0.41	< 0.38	0.8	< 0.55	< 0.38	< 1.90
Thallium	0.007		0.007				mg/l			< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.005	< 0.010	< 0.003		< 0.005	< 0.003	< 0.010	< 0.003	< 0.005	< 0.010	< 0.005
TPH C_6-C_{40}	0.01	2	0.521		0.25		mg/l		0.121	0.055	< 0.100	< 0.100	< 0.100	0.103	0.152	1.3	0.491	0.385		0.573	0.608	1.16	0.922	1.61	2.82	1.77
Uranium	0.009		0.009	9			ug/l		28	0.492	2.6	6.3	1.66	0.69	0.45	2.01	0.51	< 0.310			0.42	1.7	0.63	< 0.550	1.4	< 1.600
Vanadium	0.02-0.06		0.04				mg/l			0.074	< 0.020	0.079	0.051	< 0.020	0.022	0.052	< 0.020	< 0.020		< 0.020	0.022	0.33	0.3	0.041	0.063	0.035
Zinc	5		5				mg/l				0.11	0.42		0.09	0.04		0.07	0.04		0.04	0.17	16.4	13		0.2	0.17
Indicator Parameters																											
Electrical Conductivity (µs/cm)	250		2500		2000		µs/cm			1310	1710	1650	4210	4260	4470	6590	3970	4750		9250	5070	2580	2410	39600	44200	35600
Chloride	250	990	250		600		mg/l			160	150	160	360	400	460	800	410	500		840	310	200	180	2800	2700	2700
Sulphate	250		250				mg/l			32	15	4	42	11	4	85	< 3	34		30	36	< 3	63	190	390	590
Sodium	200	800	200		500		mg/l			124	174	114	191	228	223	572	351	757		664	231	182	93	1490	1630	1320
Potassium	12	70	18		200		mg/l			34.3	31.4	36.4	147	184	161	270	188	550		309	130	97.2	52	770	901	678
Calcium	250	800	250		150		mg/l			78.6	119	88	428	420	405	270	186	212		208	105	414	510	43.9	102	46.2
Magnesium	50	195	50		70		mg/l			58.1	85.7	63.8	82.7	84.4	83.7	103	68.7	108		105	34.8	64.6	46	35.4	36.9	31.9
Manganese	0.05		2.9				mg/l				19.4	11.6		2.58	2.55		1.16	0.667		0.755	0.609	2.97	3.7		2.95	0.793
Iron	0.2		11.58				mg/l				55.5	135		40	42.7		69.6	21.1		21.6	23.7	1420	1300		33.8	21.8
Chromium	0.05		0.05				mg/l				0.011	0.061		0.006	0.008		0.037	0.026		0.035	0.052	0.246	0.1		0.257	0.176
Dissolved Oxygen							%																				
Dissolved Oxygen							mg/l																				
Total Suspended Solids							mg/l																				
Biochemical Oxygen Demand (BOD)							mg/l			15	23	75	9	10	8	37	22	29		49	330	300	930	240	640	280
Chemical Oxygen Demand (COD)							mg/l			190	230	490	310	290	320	610	350	380		840	780	2200	3300	5800	4500	4400
Total Organic Carbon							mg/l			33	31	43	55	190	80	140	63	41		160	81	44	66	930	1200	770
Total Organic Nitrogen							mg/l			4.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	3	< 0.5	< 0.5		< 0.5	< 0.5	0.6	< 0.5	184	168	765
pH							-			6.4	6.7	6.2	6.8	7.1	7	7	7	6.8		7.8	7.1	6.9	6.7	8	8.1	8.2
Tritium			100				Bq/l	252	< 70	<70	< 70	< 14	<70	< 70	63	2494	1236	1518	497	655	72	179		2799	2538	2500

* Tritium concentrations for all wells not given. Discussed and summarised in annual report instead

Determinand	Environmental Acceptance Limits (mg/l)	Leachate Completion Criteria (mg/l)	Trigger Level (mg/l)	Trigger Level (ug/l)	Control Level (mg/l)	Control Level (ug/l)	Units	Internal Monitoring Wells (Phase 1 Capped Area)						Leachate Sumps												
								N89			N90			N102 (Phase 1)										N114 (Phase 2 Area)		
List 1								Sep-14	Jun-15	Jun-16	Sep-14	Jun-15	Jun-16	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Jun-15	Jun-16	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Jun-15	Jun-16
PCBs / PCTs	0.000005		0.000005	0.005	0.000005	0.005	ng/ug/l		< 0.051	0.262		< 0.051	< 0.013						< 0.013	< 0.003						< 0.006	< 0.003
Chlorobenzene	0.3		0.3	300	0.3	300	ug/l		< 10.0	< 2.0		< 10.0	< 4.0						< 10.0	< 1.0						< 2.0	< 1.0
Trichloroethene	0.0001		0.0001	0.1	0.0001	0.1	ug/l		< 10.0	< 2.0		< 10.0	< 4.0						< 10.0	< 1.0						< 2.0	< 1.0
Tetrachloroethene	0.0001		0.0001	0.1	0.0001	0.1	ug/l		< 10.0	< 2.0		< 10.0	< 4.0						< 10.0	< 1.0						< 2.0	< 1.0
Dichloroprop	0.0001		0.0001	0.1	0.0001	0.1	ug/l		< 1.00	< 5.00		< 0.50	< 5.00						< 0.05	< 0.05						< 0.05	< 0.05
Mercury	0.00001		0.00001	0.01	0.00001	0.01	ug/l		< 0.100	< 0.100		< 0.100	< 0.100						< 0.100	< 0.100						< 0.100	< 0.100
Cadmium	0.0001		0.001	1	0.001	1	ug/l		0.09	< 0.070		0.23	0.14						< 0.070	< 0.070						< 0.070	< 0.070
Cyanide	0.05		0.05	50	0.05	50	ug/l		< 9	<9		< 9	<9						< 9	<9						< 9	<9
Benzo(a)Pyrene	0.00001		0.00001	0.01	0.00001	0.01	ug/l		< 0.10	0.65		< 0.10	< 0.10						< 0.04	< 0.02						< 0.04	< 0.04
2,4-Dimethylphenol	0.73		0.73	730	0.73	730	ug/l		< 4	< 10		< 2	< 4						< 2	< 1						< 1	< 2
4-Methylphenol	0.18		0.18	180	0.18	180	ug/l		< 4	< 10		< 2	< 4						< 2	< 1						< 1	< 2
Acenaphthene	2.57		2.57	2570	2.57	2570	ug/l		< 0.10	1.51		< 0.10	< 0.10						< 0.04	0.02						< 0.04	< 0.04
Acenaphthylene	4		4	4000	4	4000	ug/l		< 0.10	< 0.10		< 0.10	< 0.10						< 0.04	< 0.02						< 0.04	< 0.04
Anthracene	0.071		0.071	71	0.071	71	ug/l		< 0.10	0.3		< 0.10	< 0.10						< 0.04	< 0.02						< 0.04	< 0.04
Bentazone	0.1		0.1	100	0.1	100	ug/l		< 1.00	< 5.00		< 0.50	< 5.00						< 0.05	< 0.05						< 0.05	< 0.05
Benzene	0.001		0.001	1	0.001	1	ug/l		< 10.0	6.6		< 10.0	< 4.0						< 10.0	< 1.0						< 2.0	< 1.0
Benzo(ghi)perylene	0.00019		0.00019	0.19	0.00019	0.19	ug/l		< 0.10	0.14		< 0.10	< 0.10						< 0.04	< 0.02						< 0.04	< 0.04
Benzo(a)anthracene	0.012		0.012	12	0.012	12	ug/l		< 0.10	0.29		< 0.10	< 0.10						< 0.04	< 0.02						< 0.04	< 0.04
Benzo(b)fluoranthene	0.017		0.017	17	0.017	17	ug/l		< 0.10	0.2		< 0.10	< 0.10						< 0.04	< 0.02						< 0.04	< 0.04
Benzo(k)fluoranthene	0.00048		0.00048	0.48	0.00048	0.48	ug/l		< 0.10	< 0.10		< 0.10	< 0.10						< 0.04	< 0.02						< 0.04	< 0.04
bis(2-ethylhexyl)phthalate	0.0048		0.0048	4.8	0.0048	4.8	ug/l		36	701		< 10	< 20						< 10	< 5						< 5	< 10
Chrysene	0.0018		0.0018	1.8	0.0018	1.8	ug/l		< 0.10	0.37		< 0.10	< 0.10						< 0.04	< 0.02						< 0.04	< 0.04
Cis-1,2-dichloroethene	0.061		0.061	61	0.061	61	ug/l		< 10.0	< 2.0		< 10.0	< 4.0						< 10.0	< 1.0						< 2.0	< 1.0
Dibenz(a,h)anthracene	0.00083		0.00083	0.83	0.00083	0.83	ug/l		< 0.10	< 0.10		< 0.10	< 0.10						< 0.04	< 0.02						< 0.04	< 0.04
Ethyl Benzene	5.6		5.6	5600	5.6	5600	ug/l		< 10.0	< 2.0		< 10.0	< 4.0						< 10.0	< 1.0						< 2.0	< 1.0
Fluoranthene	0.2		0.2	200	0.2	200	ug/l		< 0.10	1.15		< 0.10	< 0.10						< 0.04	< 0.02						< 0.04	< 0.04
Fluorene	2.2		2.2	2200	2.2	2200	ug/l		< 0.10	1.33		< 0.10	< 0.10						< 0.04	< 0.02						< 0.04	< 0.04
Indeno(1,2,3-cd)pyrene	0.00026		0.00026	0.26	0.00026	0.26	ug/l		< 0.10	< 0.10		< 0.10	< 0.10						< 0.04	< 0.02						< 0.04	< 0.04
Mecoprop	0.00004		0.00004	0.04	0.00004	0.04	ug/l		7.83	9.07		7.69	10.8						1.42	0.57						0.2	0.14
Methyl Tert Butyl Ether	0.0026		0.0026	2.6	0.0026	2.6	ug/l		< 10.0	< 2.0		< 10.0	< 4.0						< 10.0	< 1.0						< 2.0	< 1.0
Naphthalene	0.01		0.01	10	0.01	10	ug/l		< 0.10	2.48		< 0.10	< 0.10						< 0.04	< 0.04						< 0.04	< 0.04
Pyrene	0.106		0.106	106	0.106	106	ug/l		< 0.10	1.4		< 0.10	< 0.10						< 0.04	< 0.02						< 0.04	< 0.04
m,p-xylene	0.003		0.003	3	0.003	3	ug/l		< 10.0	< 2.0		< 10.0	< 4.0						< 10.0	< 1.0						< 2.0	< 1.0
o-xylene	0.003		0.003	3	0.003	3	ug/l		< 10.0	< 2.0		< 10.0	< 4.0						< 10.0	< 1.0						< 2.0	< 1.0
List 2																											
Ammonium	0.5	17	0.5		15		mg/l		643	605		643	655	63.5	39.2	8.8	2.08	20.9	55.6	12.3	57.7	48.4	0.38	0.83	6.7	13.9	10.9
Antimony	0.005		0.005				mg/l		< 0.010	< 0.010		< 0.010	< 0.010						< 0.010	< 0.005						< 0.005	< 0.005
Arsenic	0.05		0.05				mg/l		< 0.015	< 0.015		< 0.015	< 0.015						< 0.015	< 0.003						< 0.003	< 0.003
Barium	1		1				mg/l		0.63	0.37		0.57	0.66						< 0.01	0.1						0.1	0.11
Berylium	0.015		0.015				mg/l		<0.0021	< 0.0021		<0.0021	< 0.0021						<0.0021	< 0.0021						<0.0021	< 0.0021
Boron	1		5				mg/l		2	1.8		4.5	4.2						1.8	0.4						0.5	0.2
Chloroethane	0.036		0.036				ug/l		< 10.0	< 2.0		< 10.0	< 4.0						< 10.0	< 1.0						< 2.0	< 1.0
Cobalt	0.361		0.361				mg/l		< 0.015	< 0.015		< 0.015	< 0.015						< 0.002	0.003						< 0.015	< 0.002
Copper	2		2				mg/l		0.169	< 0.010		0.082	0.112			0.014			< 0.010	< 0.010			0.025			0.014	0.014
Fenoprop	0.001		0.001	1			ug/l		< 1.00	< 5.00		< 0.50	< 5.00						< 0.05	< 0.05						< 0.05	< 0.05
Fluoride	1.5		1.5				mg/l		< 0.15	< 0.15		230	< 0.15						130	< 0.15						150	< 0.15
Lead	0.01		0.011				mg/l		0.021	< 0.009		0.058	0.12			< 0.005			< 0.005	< 0.002			< 0.005			< 0.002	< 0.002
Molybdenum	0.07		0.07				mg/l		< 0.005	< 0.005		< 0.005	< 0.005						< 0.005	< 0.005						< 0.005	< 0.005
Nickel	0.02		0.06				mg/l		0.057	0.038		0.029	0.036			< 0.005			0.005	< 0.005			< 0.005			< 0.005	< 0.005
Nitrate	50		50				mg/l		< 3	< 3		< 3	< 3	27	34	12	4	15	25	4	<3	<3	7	5	12	14	12
PAH (Total)	0.0001		0.0001	0.1			ug/l		< 0.100	12		< 0.100	< 0.100						< 0.040	0.022						< 0.040	< 0.040
Phenanthrene	0.85		0.85	850			ug/l		< 0.10	1.94		< 0.10	< 0.10						< 0.04	< 0.02						< 0.04	< 0.04
Phosphorous	2.2		2.2				mg/l		2.61	1.47		12.5	10.8						< 0.050	< 0.050						< 0.100	0.081
Selenium	0.01		0.01				mg/l		< 0.025	< 0.025		< 0.025	< 0.025						< 0.025	< 0.005						< 0.005	< 0.005
Titanium	-		0.044				mg/l		0.408	0.043		0.253	0.218						0.012	< 0.002						0.014	0.003
Tellurium	0.07		0.07	70			ug/l		< 0.38	< 0.38		< 0.38	< 0.38						< 0.38	< 0.38						< 0.38	< 0.38
Thallium	0.007		0.007				mg/l		< 0.005	< 0.003		< 0.005	< 0.003						< 0.005	< 0.003						< 0.003	< 0.003
TPH C_6-C_{40}	0.01	2	0.521		0.25		mg/l		10.9	106		0.14	< 0.100	0.026	0.027	0.05	< 0.020	0.023	< 0.040	< 0.020	0.03	0.068	1.02	< 0.020	< 0.010	< 0.040	< 0.040
Uranium	0.009		0.009	9			ug/l		< 0.310	< 0.310		0.49	0.37						2.1	0.82						1.7	1.1
Vanadium	0.02-0.06		0.04				mg/l		0.088	0.063		0.035	0.034						< 0.010	0.002						< 0.010	< 0.002
Zinc	5		5				mg/l		0.09	< 0.03		0.21	0.36			< 0.05			0.04	0.03			< 0.05			0.15	0.03
Indicator Parameters																											
Electrical Conductivity (µs/cm)	250		2500		2000		µs/cm		7580	7330		9580	9740	1970	140	675	495	910	1810	915	1210	1270	655	390	610	760	640
Chloride	250	990	250		600		mg/l		700	660		960	990	320	190	130	82	160	240	160	92	81	52	31	84	56	42
Sulphate	250		250				mg/l		< 3	6		10	11	53	56	64	72	92	49	53	56	61	96	52	85	57	40
Sodium	200	800	200		500		mg/l		595	512		852	362	224	153	94.6	63.4	130	182	75	81.9	77.7	46.1	31.9	55.4	54.2	31
Potassium	12	70	18		200		mg/l		297	256		622	187	63.3	41.6	17.3	10.5	28.3	50.6	14	23.7	21.1	9.7	8.4	10.8	13.4	9.5
Calcium	250	800	250		150		mg/l		132	113		240	181	99.7	70.3	51.6	54.7	106	95	62	125	126	109	63.6	98.6	90.9	70
Magnesium	50	195	50		70		mg/l		104	93.8		112	72.9	34.9	23.2	12.6	10.3	23.8	29.7	15	21.8	20.4	14.6	9.1	15.5	16.4	12
Manganese	0.05		2.9				mg/l		0.816	0.542		0.894	0.812			0.196			0.437	0.78			0.142			0.314	0.27
Iron	0.2		11.58				mg/l		48.7	22.3		17.8	42.9			5.05			2.74	1.2			0.235			1.29	2.7
Chromium	0.05		0.05				mg/l		0.043	0.015		0.026	0.028			0.003			0.004	< 0.002			< 0.002			< 0.002	< 0.002
Dissolved Oxygen							%																				
Dissolved Oxygen							mg/l							6.8	7.7	10	8.8	8.2			5.3	1.3	6.3	8.4	8.1		
Total Suspended Solids							mg/l							40	20	15	< 10	15			30	85	< 10	< 10	< 10		
Biochemical Oxygen Demand (BOD)							mg/l		94	86		13	21	<2	<2	< 2	2	2	3	2	2	4	< 2	1	1	1	< 2
Chemical Oxygen Demand (COD)							mg/l		820	680		1100	1200	140	89	46	40	83	110	41	110	85	83	68	78	62	60
Total Organic Carbon							mg/l		280	77		95	51	22	39	34	13	33	48	9	30	29	40	28	32	37	7
Total Organic Nitrogen							mg/l		0.6	< 0.5		< 0.5	< 0.5	27.3	34.4	12.1	4.4	14.8	25.2	4.2	<0.5	<0.5	7.1	4.6	12.1	13.7	12.1
pH							-		7.3	7.2		7.4	7.4	7.4	7.4	7.4	6.8	6.7	7.6	7	6.8	6.7	6.7	7	6.8	7.3	6.8
Tritium			100				Bq/l	771	712	603	2016	1789	1605			162			838	125			<70			< 14	

* Tritium concentrations for all wells not given. Discussed and summarised in annual report instead

Determinand	Environmental Acceptance Limits (mg/l)	Leachate Completion Criteria (mg/l)	Trigger Level (mg/l)	Trigger Level (ug/l)	Control Level (mg/l)	Control Level (ug/l)	Units	External Monitoring Wells - Down Hydraulic Gradient South																	
								N42	N44	N47					N49C						N50				
List 1								Jun-16	Jun-16	Sep-14	Dec-14	Jun-15	Dec-15	Jun-16	Sep-14	Dec-14	Jun-15	Dec-15	Jun-16	Sep-14	Dec-14	Jun-15	Dec-15	Jun-16
PCBs / PCTs	0.000005		0.000005	0.005	0.000005	0.005	ng/ug/l			< 0.013	< 0.006	< 0.013	< 0.003	< 0.006	< 0.003	< 0.006	< 0.003	< 0.006	< 0.003	< 0.006	< 0.006	< 0.013	< 0.006	< 0.003
Chlorobenzene	0.3		0.3	300	0.3	300	ug/l			< 5.0	< 1.0	< 10.0	< 4.0	< 10.0	< 2.0	< 1.0	< 1.0	< 10.0	< 1.0	< 2.0	< 1.0	< 10.0	< 1.0	< 1.0
Trichloroethene	0.0001		0.0001	0.1	0.0001	0.1	ug/l			< 5.0	< 1.0	< 10.0	< 4.0	< 10.0	< 2.0	< 1.0	< 1.0	< 10.0	< 1.0	< 2.0	< 1.0	< 10.0	< 1.0	< 1.0
Tetrachloroethene	0.0001		0.0001	0.1	0.0001	0.1	ug/l			< 5.0	< 1.0	< 10.0	< 4.0	< 10.0	< 2.0	< 1.0	< 1.0	< 10.0	< 1.0	< 2.0	< 1.0	< 10.0	< 1.0	< 1.0
Dichloroprop	0.0001		0.0001	0.1	0.0001	0.1	ug/l			< 0.10	< 0.20	0.22	< 0.10	< 5.00	< 0.05	< 0.05	< 0.05	< 0.20	< 0.05	< 0.05	< 0.20	< 0.05	< 0.10	< 0.05
Mercury	0.00001		0.00001	0.01	0.00001	0.01	ug/l			< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	0.16	< 0.100	< 0.100	< 0.100	< 0.100	0.17	0.21	< 0.100
Cadmium	0.0001		0.001	1	0.001	1	ug/l			< 0.200	< 0.070	0.12	< 0.070	0.09	< 0.200	0.11	0.28	0.12	0.15	< 0.200	< 0.070	0.23	0.57	0.16
Cyanide	0.05		0.05	50	0.05	50	ug/l			< 9.0	< 9	< 9	0.011	<9	< 9.0	< 9	< 9	< 0.009	<9	< 9.0	< 9	< 9	< 0.009	<9
Benzo(a)Pyrene	0.00001		0.00001	0.01	0.00001	0.01	ug/l			< 0.10	< 0.04	< 0.10	< 0.04	< 0.10	< 0.02	< 0.04	< 0.04	< 0.10	< 0.04	< 0.10	< 0.04	< 0.04	< 0.04	< 0.10
2,4-Dimethylphenol	0.73		0.73	730	0.73	730	ug/l			< 10	< 4	< 4	< 4	< 2	< 1	< 2	< 1	< 1	< 1	< 10	< 4	< 2	< 4	< 2
4-Methylphenol	0.18		0.18	180	0.18	180	ug/l			< 10	< 4	< 4	< 4	< 2	< 1	< 2	< 1	41	< 1	< 10	< 4	< 2	< 4	< 2
Acenaphthene	2.57		2.57	2570	2.57	2570	ug/l			< 0.10	< 0.04	< 0.10	< 0.04	< 0.10	< 0.02	< 0.04	< 0.04	< 0.10	< 0.04	< 0.10	< 0.04	< 0.04	< 0.04	< 0.10
Acenaphthylene	4		4	4000	4	4000	ug/l			< 0.10	< 0.04	< 0.10	< 0.04	< 0.10	< 0.02	< 0.04	< 0.04	< 0.10	< 0.04	< 0.10	< 0.04	< 0.04	< 0.04	< 0.10
Anthracene	0.071		0.071	71	0.071	71	ug/l			< 0.10	< 0.04	< 0.10	< 0.04	< 0.10	< 0.02	< 0.04	< 0.04	< 0.10	< 0.04	< 0.10	< 0.04	< 0.04	< 0.04	< 0.10
Bentazone	0.1		0.1	100	0.1	100	ug/l			< 0.10	< 0.20	< 0.20	< 0.10	< 5.00	< 0.05	< 0.05	< 0.05	< 0.20	< 0.05	< 0.05	< 0.20	< 0.50	< 0.10	< 0.05
Benzene	0.001		0.001	1	0.001	1	ug/l			< 5.0	1.1	< 10.0	< 4.0	< 10.0	< 2.0	< 1.0	< 1.0	< 10.0	< 1.0	< 2.0	< 1.0	< 10.0	< 1.0	< 1.0
Benzo(ghi)perylene	0.00019		0.00019	0.19	0.00019	0.19	ug/l			< 0.10	< 0.04	< 0.10	< 0.04	< 0.10	< 0.02	< 0.04	< 0.04	< 0.10	< 0.04	< 0.10	< 0.04	< 0.04	< 0.04	< 0.10
Benzo(a)anthracene	0.012		0.012	12	0.012	12	ug/l			< 0.10	< 0.04	< 0.10	< 0.04	< 0.10	< 0.02	< 0.04	< 0.04	< 0.10	< 0.04	< 0.10	< 0.04	< 0.04	< 0.04	< 0.10
Benzo(b)fluoranthene	0.017		0.017	17	0.017	17	ug/l			< 0.10	< 0.04	< 0.10	< 0.04	< 0.10	< 0.02	< 0.04	< 0.04	< 0.10	< 0.04	< 0.10	< 0.04	< 0.04	< 0.04	< 0.10
Benzo(k)fluoranthene	0.00048		0.00048	0.48	0.00048	0.48	ug/l			< 0.10	< 0.04	< 0.10	< 0.04	< 0.10	< 0.02	< 0.04	< 0.04	< 0.10	< 0.04	< 0.10	< 0.04	< 0.04	< 0.04	< 0.10
bis(2-ethylhexyl)phthalate	0.0048		0.0048	4.8	0.0048	4.8	ug/l			< 50	< 20	< 20	< 20	< 10	< 5	< 10	< 5	< 5	< 5	< 50	< 20	< 10	< 20	< 10
Chrysene	0.0018		0.0018	1.8	0.0018	1.8	ug/l			< 0.10	< 0.04	< 0.10	< 0.04	< 0.10	< 0.02	< 0.04	< 0.04	< 0.10	< 0.04	< 0.10	< 0.04	< 0.04	< 0.04	< 0.10
Cis-1,2-dichloroethene	0.061		0.061	61	0.061	61	ug/l			< 5.0	< 1.0	< 10.0	< 4.0	< 10.0	< 2.0	< 1.0	< 1.0	< 10.0	< 1.0	< 2.0	< 1.0	< 10.0	< 1.0	< 1.0
Dibenz(a,h)anthracene	0.00083		0.00083	0.83	0.00083	0.83	ug/l			< 0.10	< 0.04	< 0.10	< 0.04	< 0.10	< 0.02	< 0.04	< 0.04	< 0.10	< 0.04	< 0.10	< 0.04	< 0.04	< 0.04	< 0.10
Ethyl Benzene	5.6		5.6	5600	5.6	5600	ug/l			< 5.0	< 1.0	< 10.0	< 4.0	< 10.0	< 2.0	< 1.0	< 1.0	< 10.0	< 1.0	< 2.0	< 1.0	< 10.0	< 1.0	< 1.0
Fluoranthene	0.2		0.2	200	0.2	200	ug/l			< 0.10	< 0.04	< 0.10	< 0.04	< 0.10	< 0.02	< 0.04	< 0.04	< 0.10	< 0.04	< 0.10	< 0.04	< 0.04	< 0.04	< 0.10
Fluorene	2.2		2.2	2200	2.2	2200	ug/l			< 0.10	< 0.04	< 0.10	< 0.04	< 0.10	< 0.02	< 0.04	< 0.04	< 0.10	< 0.04	< 0.10	< 0.04	< 0.04	< 0.04	< 0.10
Indeno(1,2,3-cd)pyrene	0.00026		0.00026	0.26	0.00026	0.26	ug/l			< 0.10	< 0.04	< 0.10	< 0.04	< 0.10	< 0.02	< 0.04	< 0.04	< 0.10	< 0.04	< 0.10	< 0.04	< 0.04	< 0.04	< 0.10
Mecoprop	0.00004		0.00004	0.04	0.00004	0.04	ug/l			8.27	10	0.99	6.6	18.5	0.07	< 0.05	0.06	< 0.16	< 0.05	< 0.05	< 0.16	< 0.05	< 0.08	< 0.05
Methyl Tert Butyl Ether	0.0026		0.0026	2.6	0.0026	2.6	ug/l			< 5.0	< 1.0	< 10.0	< 4.0	< 10.0	< 2.0	< 1.0	< 1.0	< 10.0	< 1.0	< 2.0	< 1.0	< 10.0	< 1.0	< 1.0
Naphthalene	0.01		0.01	10	0.01	10	ug/l			0.16	< 0.04	< 0.10	< 0.04	< 0.10	< 0.04	< 0.04	< 0.04	< 0.10	< 0.04	< 0.10	< 0.04	< 0.04	< 0.04	< 0.10
Pyrene	0.106		0.106	106	0.106	106	ug/l			< 0.10	< 0.04	< 0.10	< 0.04	< 0.10	< 0.02	< 0.04	< 0.04	< 0.10	< 0.04	< 0.10	< 0.04	< 0.04	< 0.04	< 0.10
m,p-xylene	0.003		0.003	3	0.003	3	ug/l			< 5.0	< 1.0	< 10.0	< 4.0	< 10.0	< 2.0	< 1.0	< 1.0	< 10.0	< 1.0	< 2.0	< 1.0	< 10.0	< 1.0	< 1.0
o-xylene	0.003		0.003	3	0.003	3	ug/l			< 5.0	< 1.0	< 10.0	< 4.0	< 10.0	< 2.0	< 1.0	< 1.0	< 10.0	< 1.0	< 2.0	< 1.0	< 10.0	< 1.0	< 1.0
List 2																								
Ammonium	0.5	17	0.5		15		mg/l			72.5	1.03	174	54.7	< 0.05	0.44	0.13	0.67	1.61	< 0.05	1.18	1.05	0.49	1.32	< 0.05
Antimony	0.005		0.005				mg/l			< 0.010	< 0.010	< 0.010	< 0.010	0.006	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.010	< 0.005	< 0.010	0.013	< 0.005
Arsenic	0.05		0.05				mg/l			< 0.015	0.016	0.023	0.017	0.016	0.005	0.016	0.016	0.016	0.012	0.044	0.006	0.023	0.03	0.01
Barium	1		1				mg/l			0.35	0.52	0.77	0.48	0.67	0.24	0.46	0.49	0.15	0.17	1.66	0.18	0.92	1.02	0.25
Berylium	0.015		0.015				mg/l			< 0.0021	< 2.1	<0.0021	< 0.0021	< 0.0021	< 0.0021	< 2.1	<0.0021	< 0.0021	< 0.0021	< 0.0021	< 2.1	<0.0021	< 0.0021	< 0.0021
Boron	1		5				mg/l			1.4	1.4	1.6	1.3	2.4	0.3	< 0.6	< 0.6	< 0.6	0.3	0.3	< 0.6	0.5	< 0.6	0.3
Chloroethane	0.036		0.036				ug/l			< 5.0	1.1	< 10.0	< 4.0	< 10.0	< 2.0	< 1.0	< 1.0	< 10.0	< 1.0	< 2.0	< 1.0	< 10.0	< 1.0	< 1.0
Cobalt	0.361		0.361				mg/l			< 0.015	< 0.015	0.034	0.021	0.029	0.007	0.034	0.03	0.016	< 0.015	0.128	0.012	0.074	0.087	0.018
Copper	2		2				mg/l			0.016	0.021	0.073	0.05	0.066	0.044	0.111	0.129	0.021	0.028	0.576	0.038	0.276	0.327	0.081
Fenoprop	0.001		0.001	1			ug/l			< 0.10	< 0.20	< 0.20	< 0.10	< 5.00	< 0.05	< 0.05	< 0.05	< 0.20	< 0.05	< 0.05	< 0.20	< 0.05	< 0.10	< 0.05
Fluoride	1.5		1.5				mg/l			< 0.15	< 0.15	75	1.1	< 0.15	< 0.15	< 0.15	86	3.9	< 0.15	< 0.15	< 0.15	120	< 0.15	< 0.15
Lead	0.01		0.011				mg/l			< 0.005	0.025	0.035	0.026	< 0.045	< 0.005	0.058	0.028	< 0.004	< 0.008	0.206	0.025	0.112	0.14	< 0.042
Molybdenum	0.07		0.07				mg/l			< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.006	0.006	0.006	< 0.005	0.006	< 0.005	< 0.005	< 0.005	< 0.005
Nickel	0.02		0.06				mg/l			0.018	0.031	0.088	0.059	0.083	0.018	0.066	0.065	0.011	0.012	0.322	0.022	0.166	0.199	0.041
Nitrate	50		50				mg/l			< 3	4	< 3	< 3	< 3	10	17	4	< 3	4	< 3	< 3	< 3	< 3	< 3
PAH (Total)	0.0001		0.0001	0.1			ug/l			0.161	< 0.040	< 0.100	< 0.040	< 0.100	0.031	< 0.040	< 0.040	< 0.100	< 0.040	< 0.100	< 0.040	< 0.040	< 0.040	< 0.100
Phenanthrene	0.85		0.85	850			ug/l			< 0.10	< 0.04	< 0.10	< 0.04	< 0.10	< 0.02	< 0.04	< 0.04	< 0.10	< 0.04	< 0.10	< 0.04	< 0.04	< 0.04	< 0.10
Phosphorous	2.2		2.2				mg/l			0.349	0.546	1.65	0.953	1.39	0.278	1.37	1.01	0.957	0.671	7.95	0.426	3.5	4.12	0.942
Selenium	0.01		0.01				mg/l			< 0.025	< 0.025	< 0.025	< 0.025	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.008	< 0.005	< 0.005	< 0.005	< 0.005
Titanium	-		0.044				mg/l			0.344	0.705	2.27	1.26	1.78	0.234	1.5	1.52	0.09	0.115	8.12	0.394	4.8	5.04	0.753
Tellurium	0.07		0.07	70			ug/l			0.11	< 0.38	< 0.38	< 0.38	< 0.38	< 0.11	< 0.38	< 0.38	< 0.38	< 0.38	0.18	< 0.38	< 0.38	< 0.38	< 0.38
Thallium	0.007		0.007				mg/l			< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.003	< 0.010	< 0.003	< 0.010	< 0.010	< 0.003
TPH C_6-C_{40}	0.01	2	0.521		0.25		mg/l			< 0.100	0.048	< 0.100	< 0.040	< 0.100	< 0.020	< 0.040	< 0.040	< 0.100	< 0.040	< 0.100	< 0.040	< 0.040	< 0.040	< 0.100
Uranium	0.009		0.009	9			ug/l			1.02	1	2.6	1.4	3.8	1.26	0.44	6.2	1.2	0.98	10.3	1.2	3.2	8	1.3
Vanadium	0.02-0.06		0.04				mg/l			0.026	0.039	0.102	0.064	0.083	0.019	0.095	0.079	0.015	0.016	0.327	0.023	0.181	0.209	0.045
Zinc	5		5				mg/l			< 0.05	0.06	0.17	0.11	0.15	< 0.05	0.12	0.11	0.03	0.03	0.69	0.05	0.34	0.41	0.07
Indicator Parameters																								
Electrical Conductivity (µs/cm)	250		2500		2000		µs/cm			1850	1530	2390	1780	2550	760	510	660	475	565	765	590	940	730	680
Chloride	250	990	250		600		mg/l			240	230	290	170	300	190	110	120	79	120	150	130	190	150	140
Sulphate	250		250				mg/l			57	71	52	61	32	51	55	58	12	48	74	60	48	50	41
Sodium	200	800	200		500		mg/l			166	196	216	153	199	92.8	76.4	82.2	45.7	61.3	108	93.8	115	93.7	80.2
Potassium	12	70	18		200		mg/l			48	53.7	78.3	55.3	66.9	25.1	26.9	23.3	34.3	20.6	66.8	12.9	38.5	41.6	14.2
Calcium	250	800	250		150		mg/l			90.8	117	159	129	155	43.5	38.4	50.9	27	28.2	127	59.5	98.2	97.8	51.5
Magnesium	50	195	50		70		mg/l			29.6	41.6	62.2	45	54.5	16.8	22.8	24.3	11.5	12	92.8	15.4	50.5	61.9	17.6
Manganese	0.05		2.9				mg/l			1.81	2.69	3.3	1.96	2.46	1.22	2.08	3.21	2.97	0.989	6.06	1.04	3.16	3.22	0.664
Iron	0.2		11.58				mg/l			29.9	49.8	191	60.6	83	11.4	61.6	48.3	21.4	10.1	319	25.5	171	183	
Chromium	0.05		0.05				mg/l			0.017	0.03	0.102	0.065	0.093	0.014	0.08	0.077	0.008	0.01	0.362	0.019	0.182	0.21	0.04
Dissolved Oxygen							%																	
Dissolved Oxygen							mg/l			4.9	2.9	2.8	5.1	1.3	7.5	4.8	8.4	4.8	7.6	2.2	3.9	5.2	5.2	6.7
Total Suspended Solids							mg/l																	
Biochemical Oxygen Demand (BOD)							mg/l																	
Chemical Oxygen Demand (COD)							mg/l																	
Total Organic Carbon							mg/l			51	38	72	49	26	14	12	15	17	11	7	23	29	30	21
Total Organic Nitrogen							mg/l			1.6	4.2	1.1	< 0.5	< 0.5	10.3	17.2	3.6	< 0.5	4.4	1.8	0.8	< 0.5	0.6	< 0.5
pH							-			6.8	6.8	6.9	6.8	6.7	6.1	5.9	6.6	6.3	5.8	6.5	6.6	6.9	6.6	6.2
Tritium			100				Bq/l	< 14	138	366	397	419	< 70		<70	< 70	85	< 70	< 14	<70	< 70	< 70	< 70	< 14

* Tritium concentrations for all wells not given. Discussed and summarised in annual report instead

Ness Farm Area of Ness Farm Landfill
Review of Chemical Testing (July 2014 - June 2016)

Determinand	Environmental Acceptance Limits (mg/l)	Leachate Completion Criteria (mg/l)	Trigger Level (mg/l)	Trigger Level (ug/l)	Control Level (mg/l)	Control Level (ug/l)	Units		External Monitoring Wells - Down Hydraulic Gradient Central										External Monitoring Wells - Down Hydraulic Gradient North			West	
								N51	N70						N76						N11A	N15	N17	N21	N22
List 1								Jun-16	Sep-14	Dec-14	Jun-15	Dec-15	Jun-16	Sep-14	Dec-14	Jun-15	Dec-15	Jun-16	Jun-16	Jun-16	Jun-16	Jun-16	Jun-16
PCBs / PCTs	0.000005		0.000005	0.005	0.000005	0.005	ng/ug/l		< 0.009	< 0.006	< 0.013	< 0.006	< 0.003	< 0.006	< 0.006	< 0.006	< 0.003	< 0.003					
Chlorobenzene	0.3		0.3	300	0.3	300	ug/l		< 10.0	< 1.0	< 10.0	< 1.0	< 10.0	< 10.0	< 1.0	< 10.0	< 4.0	< 1.0					
Trichloroethene	0.0001		0.0001	0.1	0.0001	0.1	ug/l		< 10.0	< 1.0	< 10.0	< 1.0	< 10.0	< 10.0	< 1.0	< 10.0	< 4.0	< 1.0					
Tetrachloroethene	0.0001		0.0001	0.1	0.0001	0.1	ug/l		< 10.0	< 1.0	< 10.0	< 1.0	< 10.0	< 10.0	< 1.0	< 10.0	< 4.0	< 1.0					
Dichloroprop	0.0001		0.0001	0.1	0.0001	0.1	ug/l		< 0.05	< 0.05	< 0.05	< 0.05	< 0.10	0.12	< 0.05	0.09	< 0.05	0.39					
Mercury	0.00001		0.00001	0.01	0.00001	0.01	ug/l		0.15	< 0.100	< 0.100	< 0.100	0.19	< 0.100	< 0.100	< 0.100	0.22	< 0.100					
Cadmium	0.0001		0.001	1	0.001	1	ug/l		< 0.200	< 0.070	0.09	0.32	0.2	< 0.200	< 0.070	0.07	0.1	2.25					
Cyanide	0.05		0.05	50	0.05	50	ug/l		< 9.0	< 9	< 9	< 0.009	<9	< 9.0	< 9	< 9	< 0.009	<9					
Benzo(a)Pyrene	0.00001		0.00001	0.01	0.00001	0.01	ug/l		< 0.10	< 0.04	< 0.04	< 0.02	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04					
2,4-Dimethylphenol	0.73		0.73	730	0.73	730	ug/l		< 4	< 2	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 2					
4-Methylphenol	0.18		0.18	180	0.18	180	ug/l		< 4	< 2	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 2					
Acenaphthene	2.57		2.57	2570	2.57	2570	ug/l		< 0.10	< 0.04	< 0.04	< 0.02	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04					
Acenaphthylene	4		4	4000	4	4000	ug/l		< 0.10	< 0.04	< 0.04	< 0.02	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04					
Anthracene	0.071		0.071	71	0.071	71	ug/l		< 0.10	< 0.04	< 0.04	< 0.02	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04					
Bentazone	0.1		0.1	100	0.1	100	ug/l		0.05	< 0.05	< 0.05	< 0.05	< 0.10	< 0.05	< 0.05	< 0.10	< 0.05	1.45					
Benzene	0.001		0.001	1	0.001	1	ug/l		< 10.0	< 1.0	< 10.0	< 1.0	< 10.0	< 10.0	< 1.0	< 10.0	< 4.0	< 1.0					
Benzo(ghi)perylene	0.00019		0.00019	0.19	0.00019	0.19	ug/l		< 0.10	< 0.04	< 0.04	< 0.02	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04					
Benzo(a)anthracene	0.012		0.012	12	0.012	12	ug/l		< 0.10	< 0.04	< 0.04	< 0.02	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04					
Benzo(b)fluoranthene	0.017		0.017	17	0.017	17	ug/l		< 0.10	< 0.04	< 0.04	< 0.02	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04					
Benzo(k)fluoranthene	0.00048		0.00048	0.48	0.00048	0.48	ug/l		< 0.10	< 0.04	< 0.04	< 0.02	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04					
bis(2-ethylhexyl)phthalate	0.0048		0.0048	4.8	0.0048	4.8	ug/l		< 20	< 10	< 10	< 5	< 10	< 5	< 5	< 5	< 5	< 10					
Chrysene	0.0018		0.0018	1.8	0.0018	1.8	ug/l		< 0.10	< 0.04	< 0.04	< 0.02	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04					
Cis-1,2-dichloroethene	0.061		0.061	61	0.061	61	ug/l		< 10.0	< 1.0	< 10.0	< 1.0	< 10.0	< 10.0	< 1.0	< 10.0	< 4.0	< 1.0					
Dibenz(a,h)anthracene	0.00083		0.00083	0.83	0.00083	0.83	ug/l		< 0.10	< 0.04	< 0.04	< 0.02	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04					
Ethyl Benzene	5.6		5.6	5600	5.6	5600	ug/l		< 10.0	< 1.0	< 10.0	< 1.0	< 10.0	< 10.0	< 1.0	< 10.0	< 4.0	< 1.0					
Fluoranthene	0.2		0.2	200	0.2	200	ug/l		< 0.10	< 0.04	< 0.04	< 0.02	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04					
Fluorene	2.2		2.2	2200	2.2	2200	ug/l		< 0.10	< 0.04	< 0.04	< 0.02	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04					
Indeno(1,2,3-cd)pyrene	0.00026		0.00026	0.26	0.00026	0.26	ug/l		< 0.10	< 0.04	< 0.04	< 0.02	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04					
Mecoprop	0.00004		0.00004	0.04	0.00004	0.04	ug/l		1.32	0.4	1.36	0.18	0.97	3.61	1.2	0.74	3.21	11					
Methyl Tert Butyl Ether	0.0026		0.0026	2.6	0.0026	2.6	ug/l		< 10.0	< 1.0	< 10.0	< 1.0	< 10.0	< 10.0	< 1.0	< 10.0	< 4.0	< 1.0					
Naphthalene	0.01		0.01	10	0.01	10	ug/l		< 0.10	< 0.04	< 0.04	< 0.04	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04					
Pyrene	0.106		0.106	106	0.106	106	ug/l		< 0.10	< 0.04	< 0.04	< 0.02	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04					
m,p-xylene	0.003		0.003	3	0.003	3	ug/l		< 10.0	< 1.0	< 10.0	< 1.0	< 10.0	< 10.0	< 1.0	< 10.0	< 4.0	< 1.0					
o-xylene	0.003		0.003	3	0.003	3	ug/l		< 10.0	< 1.0	< 10.0	< 1.0	< 10.0	< 10.0	< 1.0	< 10.0	< 4.0	< 1.0					
List 2																							
Ammonium	0.5	17	0.5		15		mg/l		54.5	7	50.8	9.9	28.4	27.8	22.4	49.5	33.2	74.8					
Antimony	0.005		0.005				mg/l		< 0.005	< 0.005	< 0.005	0.006	0.007	< 0.005	< 0.005	< 0.005	< 0.005	< 0.010					
Arsenic	0.05		0.05				mg/l		0.01	0.012	0.011	0.017	0.015	< 0.003	< 0.003	< 0.003	< 0.003	< 0.015					
Barium	1		1				mg/l		0.57	0.42	0.52	0.52	0.44	0.16	0.11	0.18	0.13	0.25					
Berylium	0.015		0.015				mg/l		< 0.0021	< 2.1	<0.0021	< 0.0021	< 0.0021	< 0.0021	< 2.1	<0.0021	< 0.0021	< 0.0021					
Boron	1		5				mg/l		0.7	0.7	0.7	< 0.5	0.4	0.8	0.8	0.9	1	1					
Chloroethane	0.036		0.036				ug/l		< 10.0	< 1.0	< 10.0	< 1.0	< 10.0	< 10.0	< 1.0	< 10.0	< 4.0	< 1.0					
Cobalt	0.361		0.361				mg/l		0.016	0.016	0.028	0.036	0.04	< 0.015	0.004	< 0.015	0.005	< 0.015					
Copper	2		2				mg/l		0.079	0.075	0.12	0.195	0.181	0.029	0.027	0.023	0.026	0.023					
Fenoprop	0.001		0.001	1			ug/l		< 0.05	< 0.05	< 0.05	< 0.05	< 0.10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05					
Fluoride	1.5		1.5				mg/l		< 0.15	< 0.15	180	0.16	< 0.15	< 0.15	< 0.15	170	< 0.15	< 0.15					
Lead	0.01		0.011				mg/l		0.054	0.074	0.054	0.101	0.055	< 0.005	0.012	< 0.005	0.006	< 0.003					
Molybdenum	0.07		0.07				mg/l		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005					
Nickel	0.02		0.06				mg/l		0.048	0.047	0.093	0.116	0.135	0.01	0.007	0.008	0.008	0.01					
Nitrate	50		50				mg/l		5	13	5	3	12	44	42	6	17	< 3					
PAH (Total)	0.0001		0.0001	0.1			ug/l		< 0.100	< 0.040	< 0.040	< 0.020	< 0.100	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040					
Phenanthrene	0.85		0.85	850			ug/l		< 0.10	< 0.04	< 0.04	< 0.02	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04					
Phosphorous	2.2		2.2				mg/l		0.916	1.05	1.42	1.87	2.44	< 0.100	0.09	< 0.100	< 0.100	< 0.064					
Selenium	0.01		0.01				mg/l		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.025					
Titanium	-		0.044				mg/l		1.18	1.2	0.931	1.39	0.793	0.039	0.072	0.005	0.076	0.015					
Tellurium	0.07		0.07	70			ug/l		< 0.11	< 0.38	< 0.38	< 0.38	< 0.38	< 0.11	< 0.38	< 0.38	< 0.38	< 0.38					
Thallium	0.007		0.007				mg/l		< 0.003	< 0.003	< 0.010	< 0.010	< 0.010	< 0.003	< 0.003	< 0.010	< 0.003	< 0.003					
TPH C_6-C_{40}	0.01	2	0.521		0.25		mg/l		< 0.100	< 0.040	< 0.040	< 0.020	< 0.100	< 0.040	< 0.040	< 0.040	< 0.040	0.14					
Uranium	0.009		0.009	9			ug/l		0.201	2.4	1.9	6.5	5	3.95	1.8	4.1	2.9	4.5					
Vanadium	0.02-0.06		0.04				mg/l		0.069	0.065	0.089	0.121	0.11	< 0.010	< 0.010	< 0.010	< 0.015	< 0.010					
Zinc	5		5				mg/l		0.1	0.11	0.13	0.19	0.18	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01					
Indicator Parameters																							
Electrical Conductivity (µs/cm)	250		2500		2000		µs/cm		1590	805	1370	755	1140	1720	865	1920	1450	2600					
Chloride	250	990	250		600		mg/l		190	170	180	100	160	300	180	310	190	340					
Sulphate	250		250				mg/l		87	99	50	73	76	40	43	38	39	24					
Sodium	200	800	200		500		mg/l		165	130	145	99.6	119	214	143	213	171	239					
Potassium	12	70	18		200		mg/l		69	27.9	67.5	31.8	46	68.8	52.8	88.2	70.3	108					
Calcium	250	800	250		150		mg/l		71.5	80.2	86.1	104	101	77.7	44.2	75.5	49.5	107					
Magnesium	50	195	50		70		mg/l		31.6	34.7	34.3	37.4	37.1	28.5	18.1	32.2	22.4	48.5					
Manganese	0.05		2.9				mg/l		0.696	0.476	1.66	1.69	2.34	0.907	0.616	1.48	1.03	2.26					
Iron	0.2		11.58				mg/l		35.7	34.3	45.2	67.6	60.1	0.88	1.82	1.17	1.64	0.343					
Chromium	0.05		0.05				mg/l		0.059	0.057	0.082	0.109	0.111	0.005	0.006	0.006	0.007	0.005					
Dissolved Oxygen							%																
Dissolved Oxygen							mg/l		5.4	8.1	6.9	9.4	6.5	5.5	4	3.9	4	5					
Total Suspended Solids							mg/l																
Biochemical Oxygen Demand (BOD)							mg/l																
Chemical Oxygen Demand (COD)							mg/l																
Total Organic Carbon							mg/l		42	24	35	22	33	33	22	36	27	16					
Total Organic Nitrogen							mg/l		5	12.9	5.1	3.4	12.1	43.8	41.5	6.4	16.7	1.3					
pH							-		7	7	7.2	7.3	6.9	6.7	6.7	7.1	7	7.1					
Tritium			100				Bq/l	< 14	157	< 70	130	< 70	79	181	73	146	<70	250	1053	63	< 14	< 14	92

* Tritium concentrations for all wells not given. Discussed and summarised in annual report instead

Determinand	Environmental Acceptance Limits (mg/l)	Leachate Completion Criteria (mg/l)	Trigger Level (mg/l)	Trigger Level (ug/l)	Control Level (mg/l)	Control Level (ug/l)	Units	External Monitoring Wells - Down Hydraulic Gradient Distant									West		
								N19B				N66					N79	N81	N83
List 1								**Dec-14**	**Jun-15**	**Dec-15**	**Jun-16**	**Sep-14**	**Dec-14**	**Jun-15**	**Dec-15**	**Jun-16**	**Jun-16**	**Jun-16**	**Jun-16**
PCBs / PCTs	0.000005		0.000005	0.005	0.000005	0.005	ng/ug/l	< 0.006	< 0.026	< 0.003	< 0.006	< 0.009	< 0.006	< 0.013	< 0.003	< 0.003			
Chlorobenzene	0.3		0.3	300	0.3	300	ug/l	< 1.0	< 10.0	< 4.0	< 4.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0			
Trichloroethene	0.0001		0.0001	0.1	0.0001	0.1	ug/l	< 1.0	< 10.0	< 4.0	< 4.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0			
Tetrachloroethene	0.0001		0.0001	0.1	0.0001	0.1	ug/l	< 1.0	< 10.0	< 4.0	< 4.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0			
Dichloroprop	0.0001		0.0001	0.1	0.0001	0.1	ug/l	< 0.20	< 0.10	< 0.10	< 0.50	< 0.10	< 0.10	< 0.05	< 0.10	< 0.05			
Mercury	0.00001		0.00001	0.01	0.00001	0.01	ug/l	< 0.100	< 0.100	< 0.100	0.55	< 0.100	0.18	0.15	< 0.100	< 0.100			
Cadmium	0.0001		0.001	1	0.001	1	ug/l	< 0.070	0.54	0.22	0.2	0.96	< 0.070	0.55	0.1	1.76			
Cyanide	0.05		0.05	50	0.05	50	ug/l	< 9	< 9	< 0.009	13	< 9.0	< 9	< 9	< 0.009	<9			
Benzo(a)Pyrene	0.00001		0.00001	0.01	0.00001	0.01	ug/l	< 0.04	< 0.04	< 0.04	< 0.10	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			
2,4-Dimethylphenol	0.73		0.73	730	0.73	730	ug/l	< 4	< 2	< 4	< 4	< 10	< 4	< 2	< 4	< 1			
4-Methylphenol	0.18		0.18	180	0.18	180	ug/l	< 4	< 2	< 4	< 4	< 10	< 4	< 2	< 4	< 1			
Acenaphthene	2.57		2.57	2570	2.57	2570	ug/l	< 0.04	0.05	0.05	< 0.10	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			
Acenaphthylene	4		4	4000	4	4000	ug/l	< 0.04	< 0.04	< 0.04	< 0.10	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			
Anthracene	0.071		0.071	71	0.071	71	ug/l	< 0.04	< 0.04	< 0.04	< 0.10	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			
Bentazone	0.1		0.1	100	0.1	100	ug/l	< 0.20	< 0.10	< 0.10	< 0.50	< 0.10	< 0.10	< 0.05	< 0.10	< 0.05			
Benzene	0.001		0.001	1	0.001	1	ug/l	< 1.0	< 10.0	< 4.0	< 4.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0			
Benzo(ghi)perylene	0.00019		0.00019	0.19	0.00019	0.19	ug/l	< 0.04	< 0.04	< 0.04	< 0.10	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			
Benzo(a)anthracene	0.012		0.012	12	0.012	12	ug/l	< 0.04	< 0.04	< 0.04	< 0.10	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			
Benzo(b)fluoranthene	0.017		0.017	17	0.017	17	ug/l	< 0.04	< 0.04	< 0.04	< 0.10	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			
Benzo(k)fluoranthene	0.00048		0.00048	0.48	0.00048	0.48	ug/l	< 0.04	< 0.04	< 0.04	< 0.10	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			
bis(2-ethylhexyl)phthalate	0.0048		0.0048	4.8	0.0048	4.8	ug/l	< 20	< 10	< 20	< 20	< 50	< 20	< 10	< 20	< 5			
Chrysene	0.0018		0.0018	1.8	0.0018	1.8	ug/l	< 0.04	< 0.04	< 0.04	< 0.10	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			
Cis-1,2-dichloroethene	0.061		0.061	61	0.061	61	ug/l	< 1.0	< 10.0	< 4.0	< 4.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0			
Dibenz(a,h)anthracene	0.00083		0.00083	0.83	0.00083	0.83	ug/l	< 0.04	< 0.04	< 0.04	< 0.10	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			
Ethyl Benzene	5.6		5.6	5600	5.6	5600	ug/l	< 1.0	< 10.0	< 4.0	< 4.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0			
Fluoranthene	0.2		0.2	200	0.2	200	ug/l	< 0.04	< 0.04	< 0.04	< 0.10	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			
Fluorene	2.2		2.2	2200	2.2	2200	ug/l	< 0.04	< 0.04	< 0.04	< 0.10	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			
Indeno(1,2,3-cd)pyrene	0.00026		0.00026	0.26	0.00026	0.26	ug/l	< 0.04	< 0.04	< 0.04	< 0.10	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			
Mecoprop	0.00004		0.00004	0.04	0.00004	0.04	ug/l	0.26	0.18	0.14	< 0.40	< 0.08	< 0.08	< 0.05	< 0.08	0.14			
Methyl Tert Butyl Ether	0.0026		0.0026	2.6	0.0026	2.6	ug/l	< 1.0	< 10.0	< 4.0	< 4.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0			
Naphthalene	0.01		0.01	10	0.01	10	ug/l	< 0.04	< 0.04	< 0.04	< 0.10	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			
Pyrene	0.106		0.106	106	0.106	106	ug/l	< 0.04	< 0.04	< 0.04	< 0.10	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			
m,p-xylene	0.003		0.003	3	0.003	3	ug/l	< 1.0	< 10.0	< 4.0	< 4.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0			
o-xylene	0.003		0.003	3	0.003	3	ug/l	< 1.0	< 10.0	< 4.0	< 4.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0			
List 2																			
Ammonium	0.5	17	0.5		15		mg/l	5.8	11.2	11.3	9.1	0.09	0.07	0.05	0.06	0.22			
Antimony	0.005		0.005				mg/l	0.011	< 0.005	0.006	0.049	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005			
Arsenic	0.05		0.05				mg/l	0.099	0.139	0.062	1.3	0.022	0.011	0.01	0.009	0.006			
Barium	1		1				mg/l	0.76	1.28	0.7	12.6	0.38	0.32	0.25	0.19	0.13			
Beryllium	0.015		0.015				mg/l	< 2.1	<0.0021	< 0.0021	< 0.0021	< 0.0021	< 2.1	<0.0021	< 0.0021	< 0.0021			
Boron	1		5				mg/l	< 0.6	< 0.4	< 0.6	0.6	0.3	0.6	< 0.4	< 0.6	0.4			
Chloroethane	0.036		0.036				ug/l	< 1.0	< 10.0	< 4.0	< 4.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0			
Cobalt	0.361		0.361				mg/l	0.017	< 0.015	< 0.015	0.056	0.036	0.028	0.023	0.016	< 0.010			
Copper	2		2				mg/l	0.071	0.358	0.032	0.51	0.173	0.097	0.104	0.07	0.045			
Fenoprop	0.001		0.001	1			ug/l	< 0.20	< 0.10	< 0.10	< 0.50	< 0.10	< 0.10	< 0.05	< 0.10	< 0.05			
Fluoride	1.5		1.5				mg/l	< 0.15	150	< 0.15	< 0.15	< 0.15	< 0.15	93	< 0.15	< 0.15			
Lead	0.01		0.011				mg/l	0.086	0.06	0.029	0.22	0.107	0.106	0.059	0.046	< 0.032			
Molybdenum	0.07		0.07				mg/l	0.005	< 0.005	< 0.005	0.014	0.005	< 0.005	< 0.005	< 0.005	< 0.005			
Nickel	0.02		0.06				mg/l	0.054	0.038	0.022	0.211	0.099	0.072	0.056	0.042	0.023			
Nitrate	50		50				mg/l	< 3	< 3	< 3	< 3	3	10	14	6	7			
PAH (Total)	0.0001		0.0001	0.1			ug/l	< 0.040	0.051	0.052	< 0.100	< 0.100	< 0.040	< 0.040	< 0.040	< 0.040			
Phenanthrene	0.85		0.85	850			ug/l	< 0.04	< 0.04	< 0.04	< 0.10	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			
Phosphorous	2.2		2.2				mg/l	2.54	3.66	2.02	8.2	2.46	1.26	1.62	0.848	0.687			
Selenium	0.01		0.01				mg/l	< 0.010	< 0.005	< 0.005	< 0.017	0.008	< 0.005	< 0.005	< 0.005	< 0.005			
Titanium	-		0.044				mg/l	0.61	0.473	0.216	2.26	2.55	1.24	1.7	1.03	0.479			
Tellurium	0.07		0.07	70			ug/l	< 0.38	< 0.38	< 0.38	< 0.76	0.11	< 0.38	< 0.38	< 0.38	< 0.38			
Thallium	0.007		0.007				mg/l	< 0.010	< 0.010	< 0.010	< 0.005	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003			
TPH C_6-C_{40}	0.01	2	0.521		0.25		mg/l	< 0.040	< 0.040	< 0.040	< 0.100	< 0.100	< 0.040	< 0.040	< 0.040	< 0.040			
Uranium	0.009		0.009	9			ug/l	1	1.9	0.93	1.5	12.4	0.84	3.8	1.2	1			
Vanadium	0.02-0.06		0.04				mg/l	0.07	0.073	0.038	0.801	0.148	0.102	0.091	0.062	0.033			
Zinc	5		5				mg/l	0.22	0.18	0.07	1.03	0.28	0.2	0.19	0.12	0.07			
Indicator Parameters																			
Electrical Conductivity (µs/cm)	250		2500		2000		µs/cm	805	1360	1310	1210	200	260	205	260	305			
Chloride	250	990	250		600		mg/l	170	210	200	160	33	32	26	29	38			
Sulphate	250		250				mg/l	19	24	13	17	13	13	13	14	15			
Sodium	200	800	200		500		mg/l	137	182	161	133	21.4	22.3	20.7	18	18.3			
Potassium	12	70	18		200		mg/l	15.2	17.1	15.1	26.5	15.9	11.4	11.1	7.8	5			
Calcium	250	800	250		150		mg/l	82.8	87.8	76.6	118	36.8	56.3	31.5	55.9	49.3			
Magnesium	50	195	50		70		mg/l	36.1	38.6	34.4	51	21.7	15.8	14.2	11	7.2			
Manganese	0.05		2.9				mg/l	4.9	4.15	2.72	8.75	0.572	0.425	0.368	0.238	0.132			
Iron	0.2		11.58				mg/l	154	200	86.1	995	61.1	39.4	39.2	21.8	10.3			
Chromium	0.05		0.05				mg/l	0.044	0.035	0.016	0.254	0.159	0.096	0.084	0.056	0.029			
Dissolved Oxygen							%												
Dissolved Oxygen							mg/l	1.9	2.2	2.5	< 1.0	7.9	5.9	5.7	6.1	6.9			
Total Suspended Solids							mg/l												
Biochemical Oxygen Demand (BOD)							mg/l												
Chemical Oxygen Demand (COD)							mg/l												
Total Organic Carbon							mg/l	17	26	23	150	16	6	12	26	21			
Total Organic Nitrogen							mg/l	2.6	0.9	1.1	0.9	3.1	9.5	13.9	6.4	6.8			
pH							-	6.6	6.6	6.7	6.6	6.2	6.6	6.3	6.9	6.3			
Tritium			100				Bq/l	< 70	< 70	< 70	< 14	<70	< 70	< 70	< 70	< 14	599	< 70	< 70

* Tritium concentrations for all wells not given. Discussed and summarised in annual report instead

APPENDIX C:

C5 – Tullos Hill Annual Chemical Data

Determinand	Environmental Acceptance Limits (mg/l)	Leachate Completion Criteria (mg/l)	Trigger Level (mg/l)	Trigger Level (ug/l)	Control Level (mg/l)	Control Level (ug/l)	Units	External Wells - Up Hydraulic Gradient (Background Groundwater Wells)											
								T12				T15				T27			
List 1								**Dec-14**	**Jun-15**	**Dec-15**	**Jun-16**	**Dec-14**	**Jun-15**	**Dec-15**	**Jun-16**	**Dec-14**	**Jun-15**	**Dec-15**	**Jun-12**
PCBs / PCTs	0.000005		0.000005	0.005	0.000005	0.005	ng/l	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
Chlorobenzene	0.3		1	1000	1	1000	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	0.0001		0.0001	0.1	0.0001	0.1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	0.0001		0.01	10	0.01	10	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dichloroprop	0.0001		0.00089	0.89	0.00089	0.89	ug/l	< 0.05	< 0.05	< 0.05	< 0.10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.50	< 0.05	< 0.05	< 0.05
Mercury	0.00001		0.0001	0.1	0.0001	0.1	ug/l	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	0.21	< 0.100	0.21	< 0.100	< 0.100
Cadmium	0.0001		0.005	5	0.005	5	ug/l	< 0.070	0.16	< 0.070	< 0.070	< 0.070	0.14	0.18	0.18	0.88	0.63	0.2	0.11
Cyanide	0.05		0.01	10	0.01	10	mg/l	< 0.009	0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	0.01	< 0.009	< 0.009	< 0.009	< 0.009
Benzo(a)Pyrene	0.00001		0.01	10	0.01	10	ug/l	< 0.02	< 0.01	< 0.01	< 0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dimethylphenol	0.73		0.73	730	0.73	730	ug/l	< 2	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 4	< 1	< 1	< 1
4-Methylphenol	0.18		0.18	180	0.18	180	ug/l	< 2	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 4	< 1	< 1	< 1
Acenaphthene	2.57		2.57	2570	2.57	2570	ug/l	< 0.02	< 0.01	< 0.01	< 0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	4		4	4000	4	4000	ug/l	< 0.02	< 0.01	< 0.01	< 0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	0.071		0.071	71	0.071	71	ug/l	< 0.02	< 0.01	< 0.01	< 0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bentazone	0.1		0.1	100	0.1	100	ug/l	< 0.05	< 0.05	< 0.05	< 0.10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.50	< 0.05	< 0.05	< 0.05
Benzene	0.001		0.001	1	0.001	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzo(ghi)perylene	0.00019		0.00019	0.19	0.00019	0.19	ug/l	< 0.02	< 0.01	< 0.01	< 0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	0.012		0.012	12	0.012	12	ug/l	< 0.02	< 0.01	< 0.01	< 0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	0.017		0.017	17	0.017	17	ug/l	< 0.02	< 0.01	< 0.01	< 0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	0.00048		0.00048	0.48	0.00048	0.48	ug/l	< 0.02	< 0.01	< 0.01	< 0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
bis(2-ethylhexyl)phthalate	0.0048		0.0048	4.8	0.0048	4.8	ug/l	< 10	< 5	< 5	< 5	< 10	<5	< 5	< 5	< 20	< 5	< 5	< 5
Chrysene	0.0018		0.0018	1.8	0.0018	1.8	ug/l	< 0.02	< 0.01	< 0.01	< 0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethene	0.061		0.061	61	0.061	61	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibenz(a,h)anthracene	0.00083		0.00083	0.83	0.00083	0.83	ug/l	< 0.02	< 0.01	< 0.01	< 0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethyl Benzene	5.6m		5.6	5600	5.6	5600	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Fluoranthene	0.2		0.2	200	0.2	200	ug/l	< 0.02	< 0.01	< 0.01	< 0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	2.2		2.2	2200	2.2	2200	ug/l	< 0.02	< 0.01	< 0.01	< 0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	0.00026		0.00026	0.26	0.00026	0.26	ug/l	< 0.02	< 0.01	< 0.01	< 0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Mecoprop	0.00004		0.00004	0.04	0.00004	0.04	ug/l	< 0.05	< 0.05	< 0.05	< 0.08	< 0.05	< 0.05	< 0.05	< 0.05	< 0.40	< 0.05	< 0.05	< 0.05
Methyl Tert Butyl Ether	0.0026		0.0026	2.6	0.0026	2.6	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	0.01		0.01	10	0.01	10	ug/l	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Pyrene	0.106		0.106	106	0.106	106	ug/l	< 0.02	< 0.01	< 0.01	< 0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
m,p-xylene	0.003		0.003	3	0.003	3	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	0.003		0.003	3	0.003	3	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
List 2																			
Ammonium	0.5	250	0.5		0.4		mg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.06	< 0.05	< 0.05	0.27	0.51	0.07	1.23
Antimony	0.005		0.005				mg/l	< 0.005	< 0.005	< 0.005	< 0.005	0.009	< 0.005	< 0.010	< 0.010	< 0.050	0.036	0.03	< 0.005
Arsenic	0.05		0.078				mg/l	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	0.005	0.008	0.01	0.211	0.256	0.169	0.006
Barium	1		2.2				mg/l	0.21	0.28	0.24	0.16	0.62	0.55	0.78	0.71	4.13	1.88	2.3	0.24
Berylium	0.015		0.015				mg/l	< 2.1	<0.0021	< 0.0021	< 0.0021	< 2.1	<0.0021	< 0.0021	< 0.0021	< 2.1	0.007	< 0.0021	< 0.0021
Boron	1		5.4				mg/l	< 0.6	< 0.5	< 0.5	< 0.1	0.3	< 0.5	< 0.5	0.1	< 0.3	< 0.5	< 0.5	< 0.1
Chloroethane	0.036		0.036	36			ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cobalt	0.361		0.361				mg/l	< 0.015	< 0.015	0.011	0.003	0.049	0.04	0.066	0.057	0.112	0.072	0.064	0.022
Copper	2		2				mg/l	0.03	0.044	0.034	0.015	0.179	0.151	0.235	0.217	0.689	0.24	0.214	0.013
Fenoprop	0.001		0.001	1			ug/l	< 0.05	< 0.05	< 0.05	< 0.10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.50	< 0.05	< 0.05	< 0.05
Fluoride	1.5		1.5				mg/l	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15
Lead	0.01		0.05				mg/l	0.022	< 0.010	0.013	0.003	0.097	0.04	0.073	0.014	0.46	0.176	0.182	0.016
Molybdenum	0.07		0.07				mg/l	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.018	0.021	0.012	< 0.005
Nickel	0.02		0.07				mg/l	0.023	0.034	0.027	0.007	0.081	0.07	0.115	0.097	0.224	0.139	0.128	0.038
Nitrate	50		50				mg/l	15	13	13	10	13	11	6	13	6	< 3	< 3	< 3
PAH (Total)	0.0001		0.0001	0.1			ug/l	< 0.020	< 0.010	< 0.010	< 0.040	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.011	< 0.010	< 0.010
Phenanthrene	0.85		0.85	850			ug/l	< 0.02	< 0.01	< 0.01	< 0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorous	2.2		2.2				mg/l	0.271	0.394	0.344	0.16	1.54	1.28	2.33	1.9	5.58	5.51	3.32	0.3
Selenium	0.01	0.01	0.01		0.005		mg/l	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.015	< 0.005	0.006	< 0.005
Titanium	-		0.65				mg/l	0.75	1.19	0.967	0.038	4.29	3.94	5.9	4.91	9	4.53	4.14	0.02
Tellurium	0.07		0.02	20			ug/l	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Thallium	0.007		0.1				mg/l	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.010	< 0.003	< 0.010	< 0.010	< 0.010	< 0.003
TPH C_6-C_{40}	0.01	0.2	0.03		0.01		mg/l	< 0.020	< 0.010	0.033	< 0.040	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Uranium	0.009		1.1	1100			ug/l	< 0.310	0.82	0.58	0.72	< 0.310	2.7	2.6	3	0.87	17	6.2	2.3
Vanadium	0.02 – 0.06	0.15	0.05		0.03		mg/l	0.029	0.044	0.037	0.006	0.15	0.136	0.211	0.182	0.396	0.197	0.195	0.01
Zinc	5		5				mg/l	0.05	0.07	0.06	0.02	0.22	0.19	0.29	0.26	0.68	0.34	0.31	0.04
Indicator Parameters																			
Electrical Conductivity (µs/cm)	2500		9430				µs/cm	220	235	225	215	225	245	235	250	295	580	435	495
Chloride	250		1470				mg/l	50	54	42	43	48	62	49	46	69	160	100	180
Sulphate	250		250				mg/l	19	28	23	20	22	27	21	25	34	41	40	43
Sodium	200	250	200		150		mg/l	28.2	28.5	27.3	17	33.5	31.9	33.8	31	41.7	79.5	59.7	41
Potassium	12	200	40		30		mg/l	6.7	9.4	7.8	2.3	25	22.1	32.4	28.9	50.8	25.3	23.6	3.3
Calcium	250		250				mg/l	11.3	12.3	11	9.6	15.9	17.3	19	17.7	28.4	26.7	22.8	17
Magnesium	50		70				mg/l	10.8	13.9	12	6.9	29.5	26.8	37.8	35.1	62.4	34.6	31.1	10
Manganese	0.05		4				mg/l	0.213	0.302	0.263	0.1	0.907	0.824	1.21	1.07	2.01	1.36	1.12	0.51
Iron	0.2	40	20		18		mg/l	17.2	26.7	23.3	3.2	91	86.5	120	109	441	301	245	31
Chromium	0.05		0.05				mg/l	0.025	0.039	0.031	0.004	0.146	0.131	0.202	0.181	0.311	0.151	0.144	0.005
Dissolved Oxygen							%												
Dissolved Oxygen							mg/l		10.2	10.5	9.8	11.4	10.2	10.6	10	8	5.4	7.4	7.6
Total Suspended Solids							mg/l												
Biochemical Oxygen Demand (BOD)							mg/l												
Chemical Oxygen Demand (COD)							mg/l												
Total Organic Carbon							mg/l	9	170	5	4	< 3	10	14	6	4	5	5	3
Total Organic Nitrogen							mg/l	14.5	13.1	13.4	9.7	12.5	11	6.1	12.9	5.9	<0.5	2	0.6
pH							-	5.7	6	5.7	5.4	5.8	6.3	6	6	5.3	5.7	5.3	5.3
Tritium			100				Bq/l												

Determinand	Environmental Acceptance Limits (mg/l)	Leachate Completion Criteria (mg/l)	Trigger Level (mg/l)	Trigger Level (ug/l)	Control Level (mg/l)	Control Level (ug/l)	Units	Internal Monitoring Wells									
								T9		T23			T24	T25A	T26		
List 1								Jun-15	Jun-16	Sep-14	Jun-15	Jun-16	Jun-16	Jun-16	Sep-14	Jun-15	Jun-16
PCBs / PCTs	0.000005		0.000005	0.005	0.000005	0.005	ng/l	0.125	< 0.003	< 0.006	< 0.003	< 0.003			< 0.009	< 0.013	< 0.010
Chlorobenzene	0.3		1	1000	1	1000	ug/l	< 2.0	< 1.0	< 10.0	< 2.0	< 2.0			< 20.0	< 20.0	< 10.0
Trichloroethene	0.0001		0.0001	0.1	0.0001	0.1	ug/l	< 2.0	< 1.0	< 10.0	< 2.0	< 2.0			< 20.0	< 20.0	< 10.0
Tetrachloroethene	0.0001		0.01	10	0.01	10	ug/l	< 2.0	< 1.0	< 10.0	< 2.0	< 2.0			< 20.0	< 20.0	< 10.0
Dichloroprop	0.0001		0.00089	0.89	0.00089	0.89	ug/l	< 0.20	< 0.10	0.16	< 0.05	< 0.20			0.48	< 0.20	< 0.50
Mercury	0.00001		0.0001	0.1	0.0001	0.1	ug/l	< 0.100	0.15	< 0.100	< 0.100	< 0.100			0.13	< 0.100	< 0.100
Cadmium	0.0001		0.005	5	0.005	5	ug/l	< 0.070	< 0.070	< 0.200	< 0.070	< 0.070			1.22	0.49	1.14
Cyanide	0.05		0.01	10	0.01	10	mg/l	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009			0.01	< 0.009	< 0.009
Benzo(a)Pyrene	0.00001		0.01	10	0.01	10	ug/l	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			0.12	< 0.10	< 0.10
2,4-Dimethylphenol	0.73		0.73	730	0.73	730	ug/l	< 4	< 2	< 1	< 2	< 1			< 4	5	6
4-Methylphenol	0.18		0.18	180	0.18	180	ug/l	< 4	< 2	< 1	< 2	< 1			< 4	< 2	< 2
Acenaphthene	2.57		2.57	2570	2.57	2570	ug/l	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			0.15	< 0.10	0.1
Acenaphthylene	4		4	4000	4	4000	ug/l	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			< 0.10	< 0.10	< 0.10
Anthracene	0.071		0.071	71	0.071	71	ug/l	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			< 0.10	< 0.10	< 0.10
Bentazone	0.1		0.1	100	0.1	100	ug/l	< 0.20	< 0.10	< 0.05	< 0.05	< 0.05			< 0.10	< 0.20	< 0.50
Benzene	0.001		0.001	1	0.001	1	ug/l	< 2.0	1.1	< 10.0	< 2.0	< 2.0			< 20.0	< 20.0	< 10.0
Benzo(ghi)perylene	0.00019		0.00019	0.19	0.00019	0.19	ug/l	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			< 0.10	< 0.10	< 0.10
Benzo(a)anthracene	0.012		0.012	12	0.012	12	ug/l	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			< 0.10	< 0.10	< 0.10
Benzo(b)fluoranthene	0.017		0.017	17	0.017	17	ug/l	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			0.11	< 0.10	< 0.10
Benzo(k)fluoranthene	0.00048		0.00048	0.48	0.00048	0.48	ug/l	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			< 0.10	< 0.10	< 0.10
bis(2-ethylhexyl)phthalate	0.0048		0.0048	4.8	0.0048	4.8	ug/l	<20	< 10	< 5	<10	< 5			< 20	<10	< 10
Chrysene	0.0018		0.0018	1.8	0.0018	1.8	ug/l	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			< 0.10	< 0.10	< 0.10
Cis-1,2-dichloroethene	0.061		0.061	61	0.061	61	ug/l	< 2.0	< 1.0	< 10.0	< 2.0	< 2.0			< 20.0	< 20.0	< 10.0
Dibenz(a,h)anthracene	0.00083		0.00083	0.83	0.00083	0.83	ug/l	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			< 0.10	< 0.10	< 0.10
Ethyl Benzene	5.6m		5.6	5600	5.6	5600	ug/l	< 2.0	< 1.0	< 10.0	< 2.0	< 2.0			< 20.0	< 20.0	12.5
Fluoranthene	0.2		0.2	200	0.2	200	ug/l	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			0.23	< 0.10	< 0.10
Fluorene	2.2		2.2	2200	2.2	2200	ug/l	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			0.17	0.1	0.1
Indeno(1,2,3-cd)pyrene	0.00026		0.00026	0.26	0.00026	0.26	ug/l	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			< 0.10	< 0.10	< 0.10
Mecoprop	0.00004		0.00004	0.04	0.00004	0.04	ug/l	< 0.16	< 0.08	0.97	0.92	0.95			6.01	8.68	8.83
Methyl Tert Butyl Ether	0.0026		0.0026	2.6	0.0026	2.6	ug/l	< 2.0	< 1.0	< 10.0	< 2.0	< 2.0			< 20.0	< 20.0	< 10.0
Naphthalene	0.01		0.01	10	0.01	10	ug/l	< 0.10	< 0.04	0.16	0.35	0.33			2.32	2.42	2.23
Pyrene	0.106		0.106	106	0.106	106	ug/l	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			0.25	< 0.10	< 0.10
m,p-xylene	0.003		0.003	3	0.003	3	ug/l	< 2.0	< 1.0	< 10.0	< 2.0	< 2.0			< 20.0	21	15.2
o-xylene	0.003		0.003	3	0.003	3	ug/l	< 2.0	< 1.0	< 10.0	< 2.0	< 2.0			< 20.0	< 20.0	< 10.0
List 2																	
Ammonium	0.5	250	0.5		0.4		mg/l	5.6	< 0.05	60	0.13	0.11			324	448	378
Antimony	0.005		0.005				mg/l	< 0.005	< 0.005	0.007	< 0.005	0.006			< 0.010	< 0.010	< 0.005
Arsenic	0.05		0.078				mg/l	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003			0.012	0.014	0.014
Barium	1		2.2				mg/l	0.17	0.11	0.13	0.09	0.08			0.26	0.22	0.24
Berylium	0.015		0.015				mg/l	<0.0021	< 0.0021	< 0.0021	<0.0021	< 0.0021			< 0.0021	<0.0021	< 0.0021
Boron	1		5.4				mg/l	< 0.5	0.1	0.5	0.8	0.5			1.3	2	1.5
Chloroethane	0.036		0.036	36			ug/l	< 2.0	< 1.0	< 10.0	< 2.0	< 2.0			< 20.0	< 20.0	< 10.0
Cobalt	0.361		0.361				mg/l	< 0.015	0.002	< 0.015	< 0.015	< 0.015			0.021	0.019	0.015
Copper	2		2				mg/l		< 0.010			< 0.010					0.085
Fenoprop	0.001		0.001	1			ug/l	< 0.20	< 0.10	< 0.05	< 0.05	< 0.05			< 0.10	< 0.20	< 0.50
Fluoride	1.5		1.5				mg/l	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15			< 0.15	< 0.15	< 0.15
Lead	0.01		0.05				mg/l		0.005			0.011					0.14
Molybdenum	0.07		0.07				mg/l	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005			< 0.005	< 0.005	< 0.005
Nickel	0.02		0.07				mg/l		< 0.005			0.006					0.075
Nitrate	50		50				mg/l	< 3	< 3	< 3	< 3	< 3			< 3	< 3	< 3
PAH (Total)	0.0001		0.0001	0.1			ug/l	< 0.100	< 0.040	0.157	0.346	0.325			3.69	2.62	2.58
Phenanthrene	0.85		0.85	850			ug/l	< 0.10	< 0.04	< 0.04	< 0.04	< 0.04			0.34	0.1	0.14
Phosphorous	2.2		2.2				mg/l	0.195	0.091	0.176	< 0.100	0.136			1.54	1.93	0.95
Selenium	0.01	0.01	0.01		0.005		mg/l	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005			< 0.025	< 0.025	< 0.005
Titanium	-		0.65				mg/l	0.308	0.014	0.098	0.051	0.08			0.614	0.166	0.046
Tellurium	0.07		0.02	20			ug/l	< 0.38	< 0.38	< 0.11	< 0.38	< 0.38			< 0.11	< 0.38	< 0.38
Thallium	0.007		0.1				mg/l	< 0.010	< 0.003	< 0.003	< 0.003	< 0.003			< 0.005	< 0.005	< 0.003
TPH C_6-C_{40}	0.01	0.2	0.03		0.01		mg/l	< 0.100	< 0.040	< 0.040	0.151	0.072			< 0.020	0.949	0.75
Uranium	0.009		1.1	1100			ug/l	0.44	< 0.310	0.445	< 0.310	< 0.310			0.815	0.35	0.6
Vanadium	0.02 – 0.06	0.15	0.05		0.03		mg/l	0.035	0.019	< 0.010	< 0.015	0.013			0.043	0.034	0.017
Zinc	5		5				mg/l		0.04			0.03					6.3
Indicator Parameters																	
Electrical Conductivity (µs/cm)	2500		9430				µs/cm	660	640	1180	1160	1210			3890	5950	5140
Chloride	250		1470				mg/l	190	49	43	40	41			520	630	590
Sulphate	250		250				mg/l	53	26	6	< 3	< 3			37	29	26
Sodium	200	250	200		150		mg/l	32	22	26	24.1	22.9			401	505	280
Potassium	12	200	40		30		mg/l	13.3	11	23.7	22.3	17.9			228	316	240
Calcium	250		250				mg/l	74.9	60	135	119	60.4			39.9	40.9	38
Magnesium	50		70				mg/l	15.4	12	23.9	24.1	19.1			35.8	48.5	40
Manganese	0.05		4				mg/l		4.4			0.473					0.27
Iron	0.2	40	20		18		mg/l		64			86.9					23
Chromium	0.05		0.05				mg/l		0.006			0.009					0.027
Dissolved Oxygen							%										
Dissolved Oxygen							mg/l										
Total Suspended Solids							mg/l										
Biochemical Oxygen Demand (BOD)							mg/l	10	11	11	7	7			37	69	56
Chemical Oxygen Demand (COD)							mg/l	100	84	110	76	51			660	640	630
Total Organic Carbon							mg/l	22	9	23	9	16			130	150	130
Total Organic Nitrogen							mg/l	1.2	< 0.5	1.5	1	0.8			< 0.5	2.2	1
pH							-	6.3	6	6.5	6.7	6.6			7.4	7.8	7.3
Tritium			100				Bq/l										

Tullos Hill Area of Ness Farm Landfill
Review of Chemical Testing (July 2014 - June 2016)

Determinand	Environmental Acceptance Limits (mg/l)	Leachate Completion Criteria (mg/l)	Trigger Level (mg/l)	Trigger Level (ug/l)	Control Level (mg/l)	Control Level (ug/l)	Units	External Monitoring Wells - Down Hydraulic Gradient															
								T17				T19				T20				T21				T22			
List 1								Dec-14	Jun-15	Dec-15	Jun-16	Dec-14	Jun-15	Dec-15	Jun-16	Dec-14	Jun-15	Dec-15	Jun-16	Dec-14	Jun-15	Dec-15	Jun-16	Dec-14	Jun-15	Dec-15	Jun-16
PCBs / PCTs	0.000005		0.000005	0.005	0.000005	0.005	ng/l	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	0.004	< 0.003	< 0.003	< 0.006	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
Chlorobenzene	0.3		1	1000	1	1000	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 4.0	< 1.0	< 1.0	< 10.0	< 1.0	< 10.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0
Trichloroethene	0.0001		0.0001	0.1	0.0001	0.1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 4.0	< 1.0	< 1.0	< 10.0	< 1.0	< 10.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0
Tetrachloroethene	0.0001		0.01	10	0.01	10	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 4.0	< 1.0	< 1.0	< 10.0	< 1.0	< 10.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0
Dichloroprop	0.0001		0.00089	0.89	0.00089	0.89	ug/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.50	< 0.05	< 0.05	< 0.05	< 0.50	< 0.05	< 0.05	< 0.20	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Mercury	0.00001		0.0001	0.1	0.0001	0.1	ug/l	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	0.11	< 0.100	0.22	< 0.100	0.1	< 0.100	0.28	< 0.100	0.14	< 0.100	< 0.100	< 0.100	0.11	< 0.100	< 0.100
Cadmium	0.0001		0.005	5	0.005	5	ug/l	< 0.070	< 0.070	0.11	< 0.070	0.12	0.07	0.19	0.15	0.11	0.38	0.85	1.25	< 0.070	0.58	0.17	0.37	< 0.070	0.09	0.32	1.45
Cyanide	0.05		0.01	10	0.01	10	mg/l	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009
Benzo(a)Pyrene	0.00001		0.01	10	0.01	10	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.02	< 0.04	< 0.01	< 0.04	< 0.04	< 0.01	< 0.01	< 0.01	0.02	< 0.01	< 0.01	< 0.01
2,4-Dimethylphenol	0.73		0.73	730	0.73	730	ug/l	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 2	< 4	< 1	< 1	< 1	< 1	< 2	< 1	< 1
4-Methylphenol	0.18		0.18	180	0.18	180	ug/l	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 10	< 1	< 2	< 4	< 1	< 1	< 1	< 1	< 2	< 1	< 1
Acenaphthene	2.57		2.57	2570	2.57	2570	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.02	< 0.04	< 0.01	< 0.04	< 0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	4		4	4000	4	4000	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.02	< 0.04	< 0.01	< 0.04	< 0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	0.071		0.071	71	0.071	71	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.02	< 0.04	< 0.01	< 0.04	< 0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bentazone	0.1		0.1	100	0.1	100	ug/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.50	< 0.05	< 0.05	< 0.05	< 0.50	< 0.05	< 0.05	< 0.20	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzene	0.001		0.001	1	0.001	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 4.0	< 1.0	< 1.0	< 10.0	< 1.0	< 10.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0
Benzo(ghi)perylene	0.00019		0.00019	0.19	0.00019	0.19	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.02	< 0.02	< 0.04	< 0.01	< 0.04	< 0.04	< 0.01	< 0.01	< 0.01	0.02	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	0.012		0.012	12	0.012	12	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.02	< 0.04	< 0.01	< 0.04	< 0.04	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	0.017		0.017	17	0.017	17	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.02	< 0.02	< 0.04	< 0.01	< 0.04	< 0.04	< 0.01	< 0.01	< 0.01	0.02	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	0.00048		0.00048	0.48	0.00048	0.48	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.02	< 0.04	< 0.01	< 0.04	< 0.04	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01
bis(2-ethylhexyl)phthalate	0.0048		0.0048	4.8	0.0048	4.8	ug/l	< 5	<5	< 5	< 5	< 5	<5	< 5	< 5	< 5	< 50	< 5	< 10	< 20	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Chrysene	0.0018		0.0018	1.8	0.0018	1.8	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.03	< 0.02	< 0.04	< 0.01	< 0.04	< 0.04	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethene	0.061		0.061	61	0.061	61	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 4.0	< 1.0	< 1.0	< 10.0	< 1.0	< 10.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0
Dibenz(a,h)anthracene	0.00083		0.00083	0.83	0.00083	0.83	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.02	< 0.04	< 0.01	< 0.04	< 0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethyl Benzene	5.6m		5.6	5600	5.6	5600	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 4.0	< 1.0	< 1.0	< 10.0	< 1.0	< 10.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0
Fluoranthene	0.2		0.2	200	0.2	200	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.02	< 0.04	< 0.01	< 0.04	< 0.04	< 0.01	< 0.01	< 0.01	0.02	< 0.01	< 0.01	< 0.01
Fluorene	2.2		2.2	2200	2.2	2200	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.02	< 0.04	< 0.01	< 0.04	< 0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	0.00026		0.00026	0.26	0.00026	0.26	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.02	< 0.04	< 0.01	< 0.04	< 0.04	< 0.01	< 0.01	< 0.01	0.02	< 0.01	< 0.01	< 0.01
Mecoprop	0.00004		0.00004	0.04	0.00004	0.04	ug/l	< 0.05	< 0.05	< 0.05	0.1	< 0.40	0.09	< 0.05	0.15	< 0.40	< 0.08	< 0.05	0.17	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.59	< 0.05
Methyl Tert Butyl Ether	0.0026		0.0026	2.6	0.0026	2.6	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 4.0	< 1.0	< 1.0	< 10.0	< 1.0	< 10.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0
Naphthalene	0.01		0.01	10	0.01	10	ug/l	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	0.1	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Pyrene	0.106		0.106	106	0.106	106	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.02	< 0.04	< 0.01	< 0.04	< 0.04	< 0.01	< 0.01	< 0.01	0.02	< 0.01	< 0.01	< 0.01
m,p-xylene	0.003		0.003	3	0.003	3	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 4.0	< 1.0	< 1.0	< 10.0	< 1.0	< 10.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0
o-xylene	0.003		0.003	3	0.003	3	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 4.0	< 1.0	< 10.0	< 10.0	< 1.0	< 10.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0
List 2																											
Ammonium	0.5	250	0.5		0.4		mg/l	0.08	< 0.05	< 0.05	< 0.05	0.15	< 0.05	< 0.05	< 0.05	< 0.05	0.24	< 0.05	0.06	< 0.05	< 0.05	< 0.05	0.09	< 0.05	< 0.05	24.2	< 0.05
Antimony	0.005		0.005				mg/l	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.010	< 0.005	< 0.010	< 0.010	< 0.010	< 0.005	< 0.010	< 0.010	< 0.010	0.007	< 0.005	< 0.005	< 0.005	< 0.005
Arsenic	0.05		0.078				mg/l	< 0.003	< 0.003	0.007	< 0.003	0.005	0.019	0.04	0.018	0.007	0.005	< 0.015	0.008	0.005	0.023	0.014	0.011	< 0.003	< 0.003	< 0.015	< 0.003
Barium	1		2.2				mg/l	0.1	0.09	0.44	0.12	0.14	0.36	0.82	0.37	0.31	0.21	0.48	1.03	0.94	1.09	0.91	0.56	0.18	0.14	0.73	0.26
Berylium	0.015		0.015				mg/l	< 2.1	<0.0021	< 0.0021	< 0.0021	< 2.1	<0.0021	< 0.0021	< 0.0021	< 2.1	<0.0021	< 0.0021	< 0.0021	< 2.1	<0.0021	< 0.0021	< 0.0021	< 2.1	<0.0021	< 0.0021	< 0.0021
Boron	1		5.4				mg/l	0.7	0.8	0.7	0.6	0.4	0.7	< 0.5	0.7	1.1	1.7	1.2	0.8	0.3	< 0.5	< 0.5	0.4	0.6	0.7	1.2	0.3
Chloroethane	0.036		0.036	36			ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 4.0	< 1.0	< 1.0	< 10.0	< 1.0	< 10.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0
Cobalt	0.361		0.361				mg/l	0.003	< 0.002	0.021	< 0.002	0.009	0.026	0.064	0.025	0.021	< 0.015	0.032	0.027	0.095	0.103	0.089	0.054	< 0.015	< 0.015	0.041	< 0.015
Copper	2		2				mg/l	0.017	0.011	0.083	0.021	0.048	0.137	0.237	0.12	0.1	0.08	0.135	0.071	0.161	0.237	0.151	0.101	0.016	0.015	0.102	0.043
Fenoprop	0.001		0.001	1			ug/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.50	< 0.05	< 0.05	< 0.05	< 0.50	< 0.05	< 0.05	< 0.20	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoride	1.5		1.5				mg/l	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	0.17	< 0.15
Lead	0.01		0.05				mg/l	< 0.010	< 0.002	0.038	0.006	0.013	0.023	0.059	0.009	0.085	0.039	0.125	0.053	0.146	0.081	0.074	0.009	< 0.015	< 0.005	0.056	0.003
Molybdenum	0.07		0.07				mg/l	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.006	< 0.005	0.006	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Nickel	0.02		0.07				mg/l	0.008	< 0.005	0.053	0.006	0.028	0.084	0.161	0.089	0.037	0.025	0.063	0.049	0.12	0.172	0.123	0.077	0.012	0.009	0.089	0.066
Nitrate	50		50				mg/l	71	89	82	77	10	34	10	43	50	35	36	11	18	34	23	51	75	62	49	47
PAH (Total)	0.0001		0.0001	0.1			ug/l	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.091	< 0.020	< 0.040	< 0.010	0.096	< 0.040	< 0.010	< 0.010	< 0.010	0.15	< 0.010	< 0.010	< 0.010
Phenanthrene	0.85		0.85	850			ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.02	< 0.02	< 0.04	< 0.01	< 0.04	< 0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phosphorous	2.2		2.2				mg/l	0.111	< 0.050	0.769	0.122	0.851	1.73	3.32	1.32	1.12	0.654	1.68	1.07	2.14	2.67	2.11	1.25	0.14	< 0.100	1.09	0.319
Selenium	0.01	0.01	0.01		0.005		mg/l	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.025	< 0.025	< 0.025	< 0.005	< 0.010	0.006	< 0.005	< 0.005	< 0.005	< 0.005	< 0.025	< 0.005
Titanium	-		0.65				mg/l	0.154	0.03	1.54	0.122	0.308	1.27	3.22	1.11	1.07	0.595	1.77	1.1	5.83	7.1	5.96	3.5	0.288	0.134	2.35	0.645
Tellurium	0.07		0.02	20			ug/l	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Thallium	0.007		0.1				mg/l	< 0.003	< 0.003	< 0.010	< 0.010	< 0.003	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.003	< 0.003	< 0.010	0.005
TPH C_6-C_{40}	0.01	0.2	0.03		0.01		mg/l	< 0.010	0.023	< 0.100	< 0.010	< 0.010	< 0.010	< 0.010	< 0.020	< 0.020	< 0.040	0.037	0.112	< 0.040	< 0.010	< 0.010	< 0.010	0.033	0.011	0.093	< 0.010
Uranium	0.009		1.1	1100			ug/l	0.36	0.4	2.6	0.63	0.7	2.8	4.3	4.4	3.8	4	6	4.4	0.85	6.6	2.2	3	0.65	0.94	8.7	1.6
Vanadium	0.02 – 0.06	0.15	0.05		0.03		mg/l	< 0.010	< 0.010	0.06	< 0.010	< 0.015	0.058	0.129	0.05	0.043	0.031	0.075	0.048	0.172	0.233	0.175	0.107	< 0.015	< 0.010	0.068	0.028
Zinc	5		5				mg/l	0.01	< 0.01	0.15	0.01	0.13	0.26	0.57	0.23	0.19	0.12	0.33	0.23	0.32	0.43	0.31	0.2	0.02	< 0.01	0.13	0.06
Indicator Parameters																											
Electrical Conductivity (µs/cm)	2500		9430				µs/cm	485	615	600	615	500	655	630	805	825	1170	1300	1860	325	380	330	525	525	625	1300	545
Chloride	250		1470				mg/l	49	50	48	52	130	63	150	59	45	51	43	61	28	27	22	40	42	48	83	44
Sulphate	250		250				mg/l	59	58	55	53	33	63	36	87	120	150	130	85	28	25	24	26	66	49	21	46
Sodium	200	250	200		150		mg/l	44.9	54.2	55.1	48.2	90.7	80.8	99.1	80.6	36.7	59.3	42.9	51.5	25.2	28.8	24.1	33.5	39.5	48.8	87.6	36.2
Potassium	12	200	40		30		mg/l	13	13.7	21.6	13.6	11.3	21.9	33.6	21.3	61.6	83.4	73.7	41.1	45.7	63.2	43.5	39.3	28.6	34.3	85.2	31.9
Calcium	250		250				mg/l	43.4	43.7	46	42.1	17.6	41.4	23.8	56.8	183	148	186	329	46.1	65.6	47.4	71.6	57.9	57.9	80.4	48.4
Magnesium	50		70				mg/l	22.2	24.1	33.3	24.3	17.4	36.4	38.5	42.4	36.6	40.3	41.4	31.8	35.4	48.5	35.3	27.4	20.4	17.3	48.6	16.9
Manganese	0.05		4				mg/l	0.178	0.019	1.34	0.057	0.625	1.2	2.19	3.28	3.91	1.1	2.79	7.45	7.26	5.52	7.21	3.16	0.273	0.284	9.43	4.53
Iron	0.2	40	20		18		mg/l	3.69	0.562	43.2	2.19	8.66	35.3	104	36.1	34	17.9	54.3	49.7	113	156	112	70.8	5.91	2.76	47.9	76.5
Chromium	0.05		0.05				mg/l	0.005	< 0.002	0.054	0.004	0.013	0.053	0.124	0.045	0.041	0.027	0.074	0.062	0.146	0.203	0.144	0.092	0.008	0.004	0.056	0.024
Dissolved Oxygen							%																				
Dissolved Oxygen							mg/l	10.7	9.7	9.7	10	11	5.2	9.1	4.9	7.5	4.2	7.9	6.5	10.6	9.9	10.6	9.6	10.5	7.2	4.9	7.5
Total Suspended Solids							mg/l																				
Biochemical Oxygen Demand (BOD)							mg/l																				
Chemical Oxygen Demand (COD)							mg/l																				
Total Organic Carbon							mg/l	15	31	13	9	15	21	13	14	51	68	37	13	29	11	11	9	10	22	27	8
Total Organic Nitrogen							mg/l	70.9	88.6	82.2	77	9.6	34.1	10.2	42.8	49.6	35	36.5	11	18.5	34.2	22.6	50.7	75.2	62.4	48.7	47.2
pH							-	6.4	6.6	6.4	6.5	6	6.4	5.9	6.3	6.6	6.7	6.6	6.7	6.9	6.8	6.9	6.9	6.2	6.4	6.5	6.3
Tritium			100				Bq/l																				

Determinand	Environmental Acceptance Limits (mg/l)	Leachate Completion Criteria (mg/l)	Trigger Level (mg/l)	Trigger Level (ug/l)	Control Level (mg/l)	Control Level (ug/l)	Units	T41								
List 1								Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jun-15	Dec-15	Jun-16
PCBs / PCTs	0.000005		0.000005	0.005	0.000005	0.005	ng/l						< 0.003	< 0.003	< 0.003	< 0.003
Chlorobenzene	0.3		1	1000	1	1000	ug/l						< 1.0	< 20.0	< 4.0	< 1.0
Trichloroethene	0.0001		0.0001	0.1	0.0001	0.1	ug/l						< 1.0	< 20.0	< 4.0	< 1.0
Tetrachloroethene	0.0001		0.01	10	0.01	10	ug/l						< 1.0	< 20.0	< 4.0	< 1.0
Dichloroprop	0.0001		0.00089	0.89	0.00089	0.89	ug/l						< 0.05	< 0.05	< 0.10	< 0.20
Mercury	0.00001		0.0001	0.1	0.0001	0.1	ug/l						< 0.100	< 0.100	< 0.100	< 0.100
Cadmium	0.0001		0.005	5	0.005	5	ug/l						0.18	< 0.070	< 0.070	0.11
Cyanide	0.05		0.01	10	0.01	10	mg/l						< 0.009	< 0.009	0.011	< 0.009
Benzo(a)Pyrene	0.00001		0.01	10	0.01	10	ug/l						< 0.01	< 0.04	< 0.01	< 0.01
2,4-Dimethylphenol	0.73		0.73	730	0.73	730	ug/l						< 1	< 1	< 1	< 1
4-Methylphenol	0.18		0.18	180	0.18	180	ug/l						< 1	< 1	< 1	< 1
Acenaphthene	2.57		2.57	2570	2.57	2570	ug/l						< 0.01	< 0.04	< 0.01	< 0.01
Acenaphthylene	4		4	4000	4	4000	ug/l						< 0.01	< 0.04	< 0.01	< 0.01
Anthracene	0.071		0.071	71	0.071	71	ug/l						< 0.01	< 0.04	< 0.01	< 0.01
Bentazone	0.1		0.1	100	0.1	100	ug/l						< 0.05	< 0.05	< 0.10	< 0.20
Benzene	0.001		0.001	1	0.001	1	ug/l						< 1.0	< 20.0	< 4.0	< 1.0
Benzo(ghi)perylene	0.00019		0.00019	0.19	0.00019	0.19	ug/l						< 0.01	< 0.04	< 0.01	< 0.01
Benzo(a)anthracene	0.012		0.012	12	0.012	12	ug/l						< 0.01	< 0.04	< 0.01	< 0.01
Benzo(b)fluoranthene	0.017		0.017	17	0.017	17	ug/l						< 0.01	< 0.04	< 0.01	< 0.01
Benzo(k)fluoranthene	0.00048		0.00048	0.48	0.00048	0.48	ug/l						< 0.01	< 0.04	< 0.01	< 0.01
bis(2-ethylhexyl)phthalate	0.0048		0.0048	4.8	0.0048	4.8	ug/l						< 5	<5	< 5	< 5
Chrysene	0.0018		0.0018	1.8	0.0018	1.8	ug/l						< 0.01	< 0.04	< 0.01	< 0.01
Cis-1,2-dichloroethene	0.061		0.061	61	0.061	61	ug/l						< 1.0	< 20.0	< 4.0	< 1.0
Dibenz(a,h)anthracene	0.00083		0.00083	0.83	0.00083	0.83	ug/l						< 0.01	< 0.04	< 0.01	< 0.01
Ethyl Benzene	5.6m		5.6	5600	5.6	5600	ug/l						< 1.0	< 20.0	< 4.0	< 1.0
Fluoranthene	0.2		0.2	200	0.2	200	ug/l						< 0.01	< 0.04	< 0.01	< 0.01
Fluorene	2.2		2.2	2200	2.2	2200	ug/l						< 0.01	< 0.04	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	0.00026		0.00026	0.26	0.00026	0.26	ug/l						< 0.01	< 0.04	< 0.01	< 0.01
Mecoprop	0.00004		0.00004	0.04	0.00004	0.04	ug/l						0.43	1.24	0.9	0.5
Methyl Tert Butyl Ether	0.0026		0.0026	2.6	0.0026	2.6	ug/l						< 1.0	< 20.0	< 4.0	< 1.0
Naphthalene	0.01		0.01	10	0.01	10	ug/l						< 0.04	< 0.04	< 0.04	< 0.04
Pyrene	0.106		0.106	106	0.106	106	ug/l						< 0.01	< 0.04	< 0.01	< 0.01
m,p-xylene	0.003		0.003	3	0.003	3	ug/l						< 1.0	< 20.0	< 4.0	< 1.0
o-xylene	0.003		0.003	3	0.003	3	ug/l						< 1.0	< 20.0	< 4.0	< 1.0
List 2																
Ammonium	0.5	250	0.5		0.4		mg/l						10.2	52.7	35.7	15.8
Antimony	0.005		0.005				mg/l						< 0.005	< 0.005	< 0.005	< 0.005
Arsenic	0.05		0.078				mg/l						< 0.003	0.006	< 0.003	< 0.003
Barium	1		2.2				mg/l						0.26	0.54	0.43	0.37
Berylium	0.015		0.015				mg/l						< 2.1	<0.0021	< 0.0021	< 0.0021
Boron	1		5.4				mg/l						0.5	1	1	0.6
Chloroethane	0.036		0.036	36			ug/l						< 1.0	< 20.0	< 4.0	< 1.0
Cobalt	0.361		0.361				mg/l						< 0.015	< 0.015	< 0.015	0.006
Copper	2		2				mg/l									0.02
Fenoprop	0.001		0.001	1			ug/l						< 0.05	< 0.05	< 0.10	< 0.20
Fluoride	1.5		1.5				mg/l						< 0.15	0.23	< 0.15	< 0.15
Lead	0.01		0.05				mg/l									0.003
Molybdenum	0.07		0.07				mg/l						< 0.005	< 0.005	< 0.005	< 0.005
Nickel	0.02		0.07				mg/l									0.021
Nitrate	50		50				mg/l						25	< 3	12	75
PAH (Total)	0.0001		0.0001	0.1			ug/l						< 0.010	< 0.040	0.011	< 0.010
Phenanthrene	0.85		0.85	850			ug/l						< 0.01	< 0.04	< 0.01	< 0.01
Phosphorous	2.2		2.2				mg/l						< 0.100	0.137	< 0.100	< 0.050
Selenium	0.01	0.01	0.01		0.005		mg/l						< 0.005	< 0.005	< 0.005	< 0.005
Titanium	-		0.65				mg/l						0.038	0.006	0.006	0.006
Tellurium	0.07		0.02	20			ug/l						< 0.38	< 0.38	< 0.38	< 0.38
Thallium	0.007		0.1				mg/l						< 0.010	< 0.010	< 0.010	0.005
TPH C_6-C_{40}	0.01	0.2	0.03		0.01		mg/l	0.064	0.081	< 0.040	< 0.020	0.066	0.037	0.127	0.071	0.047
Uranium	0.009		1.1	1100			ug/l						2.3	4.3	7.3	4.7
Vanadium	0.02 – 0.06	0.15	0.05		0.03		mg/l						< 0.010	< 0.015	< 0.015	0.008
Zinc	5		5				mg/l									0.03
Indicator Parameters																
Electrical Conductivity (µs/cm)	2500		9430				µs/cm	1460	1560	1630	550	985	615	1660	1440	1210
Chloride	250		1470				mg/l						91	170	120	110
Sulphate	250		250				mg/l						40	22	32	28
Sodium	200	250	200		150		mg/l						71.8	132	107	84.5
Potassium	12	200	40		30		mg/l						27.8	65.3	60	44.6
Calcium	250		250				mg/l						57.2	104	89.5	70.6
Magnesium	50		70				mg/l						20.2	47.8	37.8	33.9
Manganese	0.05		4				mg/l									3.17
Iron	0.2	40	20		18		mg/l									1.22
Chromium	0.05		0.05				mg/l									0.002
Dissolved Oxygen							%									
Dissolved Oxygen							mg/l	4.9	4.4	4	8.7	7.2	5.2			
Total Suspended Solids							mg/l	20	15	30	< 10	< 10				
Biochemical Oxygen Demand (BOD)							mg/l						< 2	4	2	2
Chemical Oxygen Demand (COD)							mg/l						52	88	56	49
Total Organic Carbon							mg/l						21	22	20	6
Total Organic Nitrogen							mg/l						24.8	<0.5	12.3	74.8
pH							-	6.7	6.7	6.6	6.9	6.5	6.7	6.8	6.6	6.6
Tritium			100				Bq/l									

APPENDIX C:

C6 – Surface Water Annual Chemical Data

Determinand	Environmental Acceptance Limits (mg/l)	Trigger Level (mg/l)	Trigger Level (ug/l)	Control Level (mg/l)	Control Level (ug/l)	Units	SW1												SW2										
List 1							Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Mar-15	Jun-15	Sep-15	Dec-15	Mar-16	Jun-16	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Mar-15	Jun-15	Sep-15	Dec-15	Mar-16	Jun-16
PCBs / PCTs	0.000005	0.000005	0.005	0.000005	0.005	ug/l			< 0.006			< 0.006	< 0.003	< 0.013	< 0.003	< 0.000003	< 0.003	< 0.003			< 0.006			< 0.006	< 0.003	< 0.006	< 0.003	< 0.000003	< 0.003	< 0.003
Chlorobenzene	0.3	0.3	300	0.3	300	ug/l			< 2.0			< 1.0	< 1.0	< 2.0	< 2.0	< 4.0	< 4.0	< 1.0			< 2.0			< 1.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 1.0
Trichloroethene	0.0001	0.0001	0.1	0.0001	0.1	ug/l			< 2.0			< 1.0	< 1.0	< 2.0	< 2.0	< 4.0	< 4.0	< 1.0			< 2.0			< 1.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 1.0
Tetrachloroethene	0.0001	0.0001	0.1	0.0001	0.1	ug/l			< 2.0			< 1.0	< 1.0	< 2.0	< 2.0	< 4.0	< 4.0	< 1.0			< 2.0			< 1.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 1.0
Dichloroprop	0.0001	0.0001	0.1	0.0001	0.1	ug/l			< 0.05			< 0.10	< 0.05	< 0.05	< 0.10	< 0.05	< 0.05	< 0.10			< 0.05			< 0.10	< 0.05	< 0.05	< 0.10	< 0.05	< 0.05	< 0.10
Mercury	0.00001	0.00001	0.01	0.00001	0.01	ug/l			< 0.0001			< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.00011	< 0.0001	< 0.0001			< 0.0001			< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.00011	< 0.0001	< 0.0001
Cadmium	0.0001	0.001	1	0.001	1	ug/l			< 0.0002			< 0.00007	0.0001	0.00009	0.00009	0.00036	0.00023	0.00012			< 0.0002			< 0.00007	< 0.00007	0.00011	0.00009	0.00039	0.00028	0.0001
Cyanide	0.05	0.05	50	0.05	50	ug/l			< 0.009			< 0.009	< 0.009	< 0.009	< 0.009	0.024	< 0.009	< 0.009			< 0.009			< 0.009	< 0.009	< 0.009	< 0.009	0.028	< 0.009	< 0.009
Benzo(a)Pyrene	0.00001	0.00001	0.01	0.00001	0.01	ug/l			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	0.16	< 0.04	< 0.04			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	0.2	< 0.04	< 0.04
2,4-Dimethylphenol	0.73	0.73	730	0.73	730	ug/l			< 1			< 2	< 4	< 2	< 2	< 1	< 1	< 2			< 1			< 2	< 2	< 1	< 1	< 1	< 1	< 2
4-Methylphenol	0.18	0.18	180	0.18	180	ug/l			< 1			< 2	< 4	< 2	< 2	< 1	< 1	< 2			< 1			< 2	< 2	< 1	< 1	< 1	< 1	< 2
Acenaphthene	2.57	2.57	2570	2.57	2570	ug/l			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	< 0.01	< 0.04	< 0.04			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	< 0.01	< 0.04	< 0.04
Acenaphthylene	4	4	4000	4	4000	ug/l			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	< 0.01	< 0.04	< 0.04			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	< 0.01	< 0.04	< 0.04
Anthracene	0.071	0.071	71	0.071	71	ug/l			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	0.01	< 0.04	< 0.04			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	0.02	< 0.04	< 0.04
Bentazone	0.1	0.1	100	0.1	100	ug/l			< 0.05			< 0.10	< 0.05	< 0.05	< 0.10	< 0.05	< 0.05	< 0.10			< 0.05			< 0.10	< 0.05	< 0.05	< 0.10	< 0.05	< 0.05	< 0.10
Benzene	0.001	0.001	1	0.001	1	ug/l			< 2.0			< 1.0	< 1.0	< 2.0	< 2.0	< 4.0	< 4.0	< 1.0			< 2.0			< 1.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 1.0
Benzo(ghi)perylene	0.00019	0.00019	0.19	0.00019	0.19	ug/l			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	0.24	< 0.04	< 0.04			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	0.3	< 0.04	< 0.04
Benzo(a)anthracene	0.012	0.012	12	0.012	12	ug/l			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	0.11	< 0.04	< 0.04			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	0.14	< 0.04	< 0.04
Benzo(b)fluoranthene	0.017	0.017	17	0.017	17	ug/l			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	0.17	< 0.04	< 0.04			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	0.23	< 0.04	< 0.04
Benzo(k)fluoranthene	0.00048	0.00048	0.48	0.00048	0.48	ug/l			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	0.07	< 0.04	< 0.04			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	0.08	< 0.04	< 0.04
bis(2-ethylhexyl)phthalate	0.0048	0.0048	4.8	0.0048	4.8	ug/l			< 5			< 10	< 20	< 10	< 10	< 5	< 5	< 10			< 5			< 10	< 10	< 5	< 5	< 5	< 5	< 10
Chrysene	0.0018	0.0018	1.8	0.0018	1.8	ug/l			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	< 0.19	< 0.04	< 0.04			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	< 0.24	< 0.04	< 0.04
Cis-1,2-dichloroethene	0.061	0.061	61	0.061	61	ug/l			< 2.0			< 1.0	1	< 2.0	< 2.0	4.2	< 4.0	< 1.0			< 2.0			< 1.0	< 2.0	< 2.0	< 2.0	4.6	< 4.0	< 1.0
Dibenz(a,h)anthracene	0.00083	0.00083	0.83	0.00083	0.83	ug/l			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	0.03	< 0.04	< 0.04			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	0.05	< 0.04	< 0.04
Ethyl Benzene	5.6	5.6	5600	5.6	5600	ug/l			< 2.0			< 1.0	< 1.0	< 2.0	< 2.0	< 4.0	< 4.0	< 1.0			< 2.0			< 1.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 1.0
Fluoranthene	0.2	0.2	200	0.2	200	ug/l			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	0.29	< 0.04	< 0.04			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	0.38	< 0.04	< 0.04
Fluorene	2.2	2.2	2200	2.2	2200	ug/l			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	0.01	< 0.04	< 0.04			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	0.02	< 0.04	< 0.04
Indeno(1,2,3-cd)pyrene	0.00026	0.00026	0.26	0.00026	0.26	ug/l			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	0.13	< 0.04	< 0.04			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	0.15	< 0.04	< 0.04
Mecoprop	0.00004	0.00004	0.04	0.00004	0.04	ug/l			< 0.05			< 0.08	0.05	< 0.05	< 0.08	< 0.05	0.07	0.19			< 0.05			< 0.08	0.05	0.05	< 0.08	< 0.05	0.07	0.17
Methyl Tert Butyl Ether	0.0026	0.0026	2.6	0.0026	2.6	ug/l			< 2.0			< 1.0	< 1.0	< 2.0	< 2.0	< 4.0	< 4.0	< 1.0			< 2.0			< 1.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 1.0
Naphthalene	0.01	0.01	10	0.01	10	ug/l			< 0.04			< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04			< 0.04			< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Pyrene	0.106	0.106	106	0.106	106	ug/l			< 0.02			< 0.04	0.04	< 0.04	< 0.02	0.46	< 0.04	< 0.04			< 0.02			< 0.04	0.04	< 0.04	< 0.02	0.59	< 0.04	< 0.04
m,p-xylene	0.003	0.003	3	0.003	3	ug/l			< 2.0			< 1.0	< 1.0	< 2.0	< 2.0	< 4.0	< 4.0	< 1.0			< 2.0			< 1.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 1.0
o-xylene	0.003	0.003	3	0.003	3	ug/l			< 2.0			< 1.0	< 1.0	< 2.0	< 2.0	< 4.0	< 4.0	< 1.0			< 2.0			< 1.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 1.0
List 2																														
Ammonium	0.5	0.5		100		mg/l	3	1.66	1.95	1.4	0.33	1.04	2.05	1.34	1.92	0.84	4	0.66	3.3	1.97	1.45	1.46	0.57	0.99	2.34	1.68	2.05	0.97	3.2	0.65
Antimony	0.005	0.005				mg/l			< 0.005			< 0.005	< 0.005	< 0.005	< 0.005	0.011	< 0.005	< 0.005			< 0.005			< 0.005	< 0.005	< 0.005	< 0.005	0.019	< 0.005	< 0.005
Arsenic	0.05	0.05				mg/l			< 0.003			< 0.003	< 0.003	< 0.003	< 0.003	0.003	< 0.003	< 0.003			< 0.003			< 0.003	< 0.003	< 0.003	< 0.003	0.011	< 0.003	< 0.003
Barium	1	1				mg/l			0.23			0.16	0.36	0.31	0.26	7.45	0.27	0.61			0.21			0.16	0.32	0.32	0.25	6.94	0.25	0.84
Beryllium	0.015	0.015				mg/l			< 0.0021			< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021			< 0.0021			< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021
Boron	1	5				mg/l			0.4			< 0.6	0.5	< 0.4	0.3	< 0.6	0.3	0.4			0.4			0.6	0.6	0.5	0.4	< 0.6	0.3	0.4
Chloroethane	0.036	0.036	36			ug/l			< 2.0			< 1.0	< 1.0	< 2.0	< 2.0	< 4.0	< 4.0	< 1.0			< 2.0			< 1.0	< 2.0	< 2.0	< 2.0	< 4.0	< 4.0	< 1.0
Cobalt	0.361	0.361				mg/l			< 0.002			0.002	< 0.015	0.003	0.004	< 0.005	0.004	0.003			< 0.015			< 0.002	< 0.015	0.003	0.004	< 0.015	0.003	0.003
Copper	2	2				mg/l			0.014			0.017	0.027	0.016	0.021	0.063	0.019	0.021			0.012			0.017	0.026	0.019	0.012	0.075	0.018	0.019
Fenoprop	0.001	0.001	1			ug/l			< 0.05			< 0.10	< 0.05	< 0.05	< 0.10	< 0.05	< 0.05	< 0.10			< 0.05			< 0.10	< 0.05	< 0.05	< 0.10	< 0.05	< 0.05	< 0.10
Fluoride	1.5	1.5				mg/l			< 0.15			< 0.15	< 0.15	140	< 0.15	3.1	2.5	< 0.15			< 0.15			< 0.15	< 0.15	120	< 0.15	4.7	2.7	< 0.15
Lead	0.01	0.011				mg/l			< 0.005			< 0.010	0.009	< 0.005	< 0.002	0.031	< 0.005	< 0.008			< 0.002			< 0.010	0.012	< 0.005	< 0.002	0.036	< 0.002	< 0.007
Molybdenum	0.07	0.07				mg/l			< 0.005			< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005			< 0.005			< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Nickel	0.02	0.06				mg/l			0.01			0.008	0.014	0.008	0.011	0.021	0.011	0.014			0.006			0.008	0.016	0.008	0.01	0.016	0.011	0.009
Nitrate	50	50				mg/l			9			10	12	11	9	3	13	9			8			9	11	11	9	< 3	13	7
PAH (Total)	0.0001	0.0001	0.1			ug/l			0.028			< 0.040	0.076	< 0.040	< 0.020	1.75	< 0.040	< 0.040			0.028			< 0.040	0.072	< 0.040	< 0.020	2.27	< 0.040	< 0.040
Phenanthrene	0.85	0.85	850			ug/l			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	0.07	< 0.04	< 0.04			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	0.13	< 0.04	< 0.04
Phosphorous	2.2	2.2				mg/l			0.333			0.245	0.27	0.215	0.251	0.413	0.298	0.193			0.279			0.213	0.28	0.272	0.293	1.03	0.24	0.185
Selenium	0.01	0.01				mg/l			< 0.005			< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005			< 0.005			< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Titanium	-	0.044				mg/l			0.036			0.022	0.073	0.026	0.009	0.223	0.015	0.084			0.033			0.019	0.077	0.028	0.01	0.318	0.012	0.072
Tellurium	0.07	0.07	70			ug/l			< 0.11			< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	0.59			< 0.11			< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	0.65
Thallium	0.007	0.007				mg/l			< 0.003			< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003			< 0.003			< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
TPH C_6-C_{40}	0.01	0.521		1		mg/l	0.047	0.045	0.023	< 0.020	0.118	< 0.040	0.17	< 0.040	< 0.020	2.53	< 0.040	< 0.040	0.052	0.166	< 0.020	< 0.020	0.16	< 0.040	0.086	< 0.040	< 0.020	2.95	< 0.040	0.04
Uranium	0.009	0.009	9			ug/l			0.752			0.87	0.88	0.87	0.67	0.46	0.93	1.2			1.14			0.93	0.84	0.92	0.67	0.55	0.9	1.1
Vanadium	0.02-0.06	0.04				mg/l			< 0.010			< 0.010	< 0.010	< 0.010	< 0.010	0.015	< 0.010	< 0.010			< 0.010			< 0.010	< 0.010	< 0.010	< 0.010	0.02	< 0.010	< 0.010
Zinc	5	5				mg/l			0.03			0.04	0.04	0.04	0.02	0.39	0.06	0.04			0.03			0.04	0.03	0.04	0.03	0.49	0.06	0.03
Indicator Parameters																														
Electrical Conductivity (µs/cm)	250	2500		3000		µs/cm	890	845	675	550	390	575	1160	1010	965	7500	3130	665	915	910	685	555	405	570	1160	960	955	7240	3430	615
Chloride	250	250		500		mg/l	230	210	150	150	110	150	310	220	220	2200	860	160	140	240	150	150	120	150	300	220	230	2200	940	140
Sulphate	250	250				mg/l			35			35	39	34	35	31	47	37			56			37	41	34	35	34	49	29
Sodium	200	200				mg/l			109			102	184	154	145	1500	559	105			101			101	185	155	139	1490	612	87
Potassium	12	18				mg/l			8			12.7	9.8	8.5	8.8	33.6	12.4	9.4			8.7			12	10.8	8.6	8.8	41	13.6	6.6
Calcium	250	250				mg/l			40.5			36.9	57	43.6	49	51.7	49.3	31.2			58.6			42.1	61	45.5	48.8	58.8	51.3	36.7
Magnesium	50	50				mg/l			8.9			8.8	13.3	11.6	13.3	9	14	8			11.2			9.4	13.5	11.8	13	9.9	13.9	8.2
Manganese	0.05	2.9				mg/l			0.304			0.255	0.59	0.555	0.611	0.269	0.576	0.281			0.371			0.264	0.55	0.559	0.598	0.317	0.557	0.29
Iron	0.2	11.58				mg/l			4.89			3.52	7.04	7.76	5.19	15.7	10.4	5.25			4.07			3.33	6.86	6.11	4.88	19.1	3.17	4.48
Chromium	0.05	0.05				mg/l			< 0.002			0.003	0.003	< 0.002	< 0.002	0.013	0.002	0.005			< 0.002			0.002	0.003	0.002	< 0.002	0.017	< 0.002	0.004
Dissolved Oxygen						%																								
Dissolved Oxygen						mg/l	9.1	8.8	9.1	9.4	7.9	10.3	10.6	10.5	9.6	11.4	11.5	9.4	8.9	9.6	9.4	8.5	9	10.5	11.1	10.6	9.2	12	10.7	10
Total Suspended Solids						mg/l	20	370	30	< 10	120	10	45	15	< 10	230	40	35	15	40	25	< 10	110	< 10	45	20	15	320	25	35
Biochemical Oxygen Demand (BOD)						mg/l	5	2	4	3	10	3	7	5	< 2	11	8	2	5	3	3	3	11	3	8	6	3	13	9	3
Chemical Oxygen Demand (COD)						mg/l	26	30	35	48	72	46	47	30	36	100	49	49	25	25	46	54	63	47	43	30	38	120	42	54
Total Organic Carbon						mg/l			14			16	13	11	14	23	14	32			17			20	14	12	15	16	14	31
Total Organic Nitrogen						mg/l			9.7			10.2	11.9	11	9.5	3.5	13.3	8.7			8.2			9.6	11.5	10.9	9.4	2.8	12.8	7.5
pH						-	7.4	7.3	7.4	7.3	7.1	7.3	7.5	7.4	7.6	7.3	7	7	7.4	7.4	7.6	7.5	7.2	7.3	7.5	7.4	7.4	7.3	7	7.1
Tritium						Bq/l			<14												<14									

Determinand	Environmental Acceptance Limits (mg/l)	Trigger Level (mg/l)	Trigger Level (ug/l)	Control Level (mg/l)	Control Level (ug/l)	Units	SW3												SW4										
List 1							**Jul-14**	**Aug-14**	**Sep-14**	**Oct-14**	**Nov-14**	**Dec-14**	**Mar-15**	**Jun-15**	**Sep-15**	**Dec-15**	**Mar-16**	**Jun-16**	**Jul-14**	**Aug-14**	**Sep-14**	**Oct-14**	**Nov-14**	**Dec-14**	**Mar-15**	**Jun-15**	**Sep-15**	**Dec-15**	**Mar-16**	**Jun-16**
PCBs / PCTs	0.000005	0.000005	0.005	0.000005	0.005	ug/l			< 0.006			< 0.006	< 0.006	< 0.006	< 0.003	< 0.000003	< 0.003	< 0.003			< 0.006			< 0.006	< 0.006	< 0.006	< 0.003	< 0.000003		< 0.003
Chlorobenzene	0.3	0.3	300	0.3	300	ug/l			< 2.0			< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0			< 2.0			< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0
Trichloroethene	0.0001	0.0001	0.1	0.0001	0.1	ug/l			< 2.0			< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0			< 2.0			< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	0.0001	0.0001	0.1	0.0001	0.1	ug/l			< 2.0			< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0			< 2.0			< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0
Dichloroprop	0.0001	0.0001	0.1	0.0001	0.1	ug/l			< 0.05			< 0.10	< 0.05	< 0.05	< 0.10	< 0.05	< 0.05	< 0.05			< 0.05			< 0.10	< 0.05	< 0.05	< 0.10	< 0.05	< 0.05	< 0.05
Mercury	0.00001	0.00001	0.01	0.00001	0.01	ug/l			< 0.0001			< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001			< 0.0001			< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Cadmium	0.0001	0.001	1	0.001	1	ug/l			< 0.0002			< 0.00007	< 0.00007	< 0.00007	< 0.00007	0.00014	0.00016	< 0.00007			< 0.0002			< 0.00007	< 0.00007	< 0.00007	< 0.00007	0.0001	0.0001	< 0.00007
Cyanide	0.05	0.05	50	0.05	50	ug/l			< 0.009			< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009			< 0.009			< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	0.013	< 0.009
Benzo(a)Pyrene	0.00001	0.00001	0.01	0.00001	0.01	ug/l			< 0.02			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.01			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
2,4-Dimethylphenol	0.73	0.73	730	0.73	730	ug/l			< 1			< 2	< 4	< 1	< 1	< 1	< 1	< 2			< 1			< 2	< 4	< 1	< 1	< 1	< 2	< 2
4-Methylphenol	0.18	0.18	180	0.18	180	ug/l			< 1			< 2	< 4	< 1	< 1	< 1	< 1	< 2			< 1			< 2	< 4	< 1	< 1	< 1	< 2	< 2
Acenaphthene	2.57	2.57	2570	2.57	2570	ug/l			< 0.02			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.01			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Acenaphthylene	4	4	4000	4	4000	ug/l			< 0.02			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 4.00	< 0.04			< 0.01			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Anthracene	0.071	0.071	71	0.071	71	ug/l			< 0.02			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.01			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Bentazone	0.1	0.1	100	0.1	100	ug/l			< 0.05			< 0.10	< 0.05	< 0.05	< 0.10	< 0.05	< 0.05	< 0.05			< 0.05			< 0.10	< 0.05	< 0.05	< 0.10	< 0.05	< 0.05	< 0.05
Benzene	0.001	0.001	1	0.001	1	ug/l			< 2.0			< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0			< 2.0			< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0
Benzo(ghi)perylene	0.00019	0.00019	0.19	0.00019	0.19	ug/l			< 0.02			< 0.04	< 0.04	< 0.04	< 0.02	0.06	< 0.04	< 0.04			< 0.01			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Benzo(a)anthracene	0.012	0.012	12	0.012	12	ug/l			< 0.02			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.01			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Benzo(b)fluoranthene	0.017	0.017	17	0.017	17	ug/l			< 0.02			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.01			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Benzo(k)fluoranthene	0.00048	0.00048	0.48	0.00048	0.48	ug/l			< 0.02			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.01			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
bis(2-ethylhexyl)phthalate	0.0048	0.0048	4.8	0.0048	4.8	ug/l			< 5			< 10	< 20	< 5	< 5	< 5	< 5	< 10			< 5			< 10	< 20	< 5	< 5	< 5	< 10	< 10
Chrysene	0.0018	0.0018	1.8	0.0018	1.8	ug/l			< 0.02			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.01			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Cis-1,2-dichloroethene	0.061	0.061	61	0.061	61	ug/l			< 2.0			< 1.0	< 1.0	< 2.0	< 2.0	1.6	< 1.0	< 1.0			< 2.0			< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0
Dibenz(a,h)anthracene	0.00083	0.00083	0.83	0.00083	0.83	ug/l			< 0.02			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.01			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Ethyl Benzene	5.6	5.6	5600	5.6	5600	ug/l			< 2.0			< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0			< 2.0			< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0
Fluoranthene	0.2	0.2	200	0.2	200	ug/l			< 0.02			< 0.04	< 0.04	< 0.04	< 0.02	0.05	< 0.04	< 0.04			< 0.01			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Fluorene	2.2	2.2	2200	2.2	2200	ug/l			< 0.02			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.01			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Indeno(1,2,3-cd)pyrene	0.00026	0.00026	0.26	0.00026	0.26	ug/l			< 0.02			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.01			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Mecoprop	0.00004	0.00004	0.04	0.00004	0.04	ug/l			< 0.05			< 0.08	< 0.05	< 0.05	< 0.08	< 0.05	0.05	0.12			< 0.05			< 0.08	< 0.05	< 0.05	< 0.08	< 0.05	0.05	0.11
Methyl Tert Butyl Ether	0.0026	0.0026	2.6	0.0026	2.6	ug/l			< 2.0			< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0			< 2.0			< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0
Naphthalene	0.01	0.01	10	0.01	10	ug/l			< 0.04			< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04			< 0.04			< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Pyrene	0.106	0.106	106	0.106	106	ug/l			< 0.02			< 0.04	< 0.04	< 0.04	< 0.02	0.09	< 0.04	< 0.04			0.02			< 0.04	< 0.04	< 0.04	< 0.02	0.06	< 0.04	< 0.04
m,p-xylene	0.003	0.003	3	0.003	3	ug/l			< 2.0			< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0			< 2.0			< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0
o-xylene	0.003	0.003	3	0.003	3	ug/l			< 2.0			< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0			< 2.0			< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0
List 2																														
Ammonium	0.5	0.5		100		mg/l	0.9	1.45	0.4	0.66	0.81	0.92	1.09	1	1.03	0.95	2	0.41	0.98	1.53	0.4	0.61	0.85	0.94	1.15	1.08	1.24	0.88	1.71	0.39
Antimony	0.005	0.005				mg/l			< 0.005			< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005			< 0.005			< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Arsenic	0.05	0.05				mg/l			< 0.003			< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003			< 0.003			< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
Barium	1	1				mg/l			0.28			0.25	0.57	0.4	0.26	1.76	0.96	0.23			0.26			0.25	0.37	0.41	0.23	0.99	0.55	0.23
Beryllium	0.015	0.015				mg/l			< 0.0021			< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021			< 0.0021			< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021
Boron	1	5				mg/l			0.3			< 0.6	0.4	0.6	0.5	< 0.6	0.3	0.3			0.3			< 0.6	0.4	0.4	0.3	< 0.6	< 0.3	0.4
Chloroethane	0.036	0.036	36			ug/l			< 2.0			< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0			< 2.0			< 1.0	< 1.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0
Cobalt	0.361	0.361				mg/l			< 0.002			0.002	0.003	< 0.002	< 0.002	< 0.005	< 0.015	< 0.002			< 0.002			0.002	0.003	< 0.002	< 0.002	< 0.002	< 0.015	< 0.002
Copper	2	2				mg/l			0.012			0.014	0.017	0.014	< 0.010	0.03	0.021	0.016			< 0.010			0.016	0.015	0.012	< 0.010	0.024	0.014	0.016
Fenoprop	0.001	0.001	1			ug/l			< 0.05			< 0.10	< 0.05	< 0.05	< 0.10	< 0.05	< 0.05	< 0.05			< 0.05			< 0.10	< 0.05	< 0.05	< 0.10	< 0.05	< 0.05	< 0.05
Fluoride	1.5	1.5				mg/l			< 0.15			< 0.15	< 0.15	120	< 0.15	2.6	2.6	< 0.15			< 0.15			< 0.15	< 0.15	120	< 0.15	1.6	2.2	< 0.15
Lead	0.01	0.011				mg/l			< 0.005			< 0.010	0.008	< 0.005	0.005	0.012	0.008	< 0.004			< 0.002			< 0.010	0.007	< 0.002	< 0.005	0.007	< 0.005	< 0.004
Molybdenum	0.07	0.07				mg/l			< 0.005			< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005			< 0.005			< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Nickel	0.02	0.06				mg/l			0.009			0.008	0.009	0.006	0.009	0.009	0.012	0.006			0.01			0.009	0.01	0.006	0.008	0.008	0.01	0.007
Nitrate	50	50				mg/l			5			9	12	8	11	5	14	6			5			9	11	7	10	7	14	7
PAH (Total)	0.0001	0.0001	0.1			ug/l			0.024			< 0.040	< 0.040	< 0.040	< 0.020	0.192	< 0.040	< 0.040			0.032			< 0.040	< 0.040	< 0.040	< 0.020	0.061	< 0.040	< 0.040
Phenanthrene	0.85	0.85	850			ug/l			< 0.02			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.01			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Phosphorous	2.2	2.2				mg/l			0.174			0.164	0.15	0.136	0.184	0.324	0.216	0.14			0.158			0.173	0.14	0.133	0.174	0.24	0.156	0.138
Selenium	0.01	0.01				mg/l			< 0.005			< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005			< 0.005			< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Titanium	-	0.044				mg/l			0.019			0.053	0.023	0.014	0.013	0.136	0.06	0.038			0.013			0.052	0.015	0.014	0.008	0.095	0.05	0.039
Tellurium	0.07	0.07	70			ug/l			< 0.11			< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38			< 0.11			< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	0.45	< 0.38
Thallium	0.007	0.007				mg/l			< 0.003			< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003			< 0.003			< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
TPH C_6-C_{40}	0.01	0.521		1		mg/l	0.058	0.098	< 0.020	< 0.020	0.04	< 0.040	< 0.040	< 0.040	< 0.020	0.108	< 0.040	< 0.040	0.21	0.054	0.037	< 0.020	0.305	< 0.040	< 0.040	< 0.040	< 0.020	0.147	< 0.040	< 0.040
Uranium	0.009	0.009	9			ug/l			0.645			0.85	0.76	0.62	0.57	0.43	0.88	0.52			0.632			0.95	0.79	0.55	0.54	0.42	0.75	0.55
Vanadium	0.02-0.06	0.04				mg/l			< 0.010			< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010			< 0.010			< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Zinc	5	5				mg/l			0.03			0.04	0.04	0.04	0.03	0.13	0.08	0.03			0.03			0.04	0.04	0.04	0.02	0.09	0.05	0.03
Indicator Parameters																														
Electrical Conductivity (µs/cm)	250	2500		3000		µs/cm		855	435	520	540	565	1160	725	935	3230	3470	470	900	850	440	525	545	570	1160	715	930	2470	2970	470
Chloride	250	250		500		mg/l	230	210	89	130	160	150	320	170	220	1000	890	100	230	210	87	130	160	150	320	160	220	610	750	99
Sulphate	250	250				mg/l			30			37	40	27	34	28	50	23			29			37	40	26	34	27	49	22
Sodium	200	200				mg/l			64.6			97.1	210	127	140	634	572	63.6			75.9			101	189	115	132	463	473	64.9
Potassium	12	18				mg/l			5.5			8.1	8.4	6.7	9.2	19.1	13.4	5.7			5.5			8.5	8.6	6.5	8.4	16.2	12.4	5.4
Calcium	250	250				mg/l			35.9			43.5	50.8	34	49.3	47.5	58.3	28.3			36.2			45.1	50.5	32.8	46.3	44.2	56.5	27.8
Magnesium	50	50				mg/l			6.5			9.7	13.5	8.4	13.1	9.5	15	6.1			6.7			10	13.7	8.1	12.1	9.3	15.1	5.9
Manganese	0.05	2.9				mg/l			0.07			0.288	0.55	0.349	0.368	0.246	0.538	0.045			0.065			0.295	0.55	0.346	0.387	0.207	0.45	0.044
Iron	0.2	11.58				mg/l			2.11			4.37	4.83	4.12	4.63	7.56	4.64	2.32			2.05			4.43	4.55	3.92	4.41	5.14	3.42	2.26
Chromium	0.05	0.05				mg/l			< 0.002			0.003	< 0.002	< 0.002	< 0.002	0.006	0.003	0.002			< 0.002			0.002	< 0.002	< 0.002	< 0.002	0.004	< 0.002	0.002
Dissolved Oxygen						%																								
Dissolved Oxygen						mg/l	7.3	5.8	6.9	7.9	8.6	9.3	10.1	9.2	6.9	10.1	9.1	6.8	7.4	7.4	7.9	8.5	10.5	10.3	9.9	9.2	8.2	7.4	9.7	6.6
Total Suspended Solids						mg/l	<10	85	< 10	< 10	55	25	10	< 10	20	75	45	10	<10	55	< 10	< 10	45	25	< 10	< 10	< 10	50	30	< 10
Biochemical Oxygen Demand (BOD)						mg/l	3	<2	2	2	4	< 2	4	4	< 2	6	6	2	3	2	2	3	4	< 2	2	4	< 2	4	5	< 2
Chemical Oxygen Demand (COD)						mg/l	27	36	35	52	47	49	34	26	36	50	46	37	26	27	30	53	41	43	35	24	35	44	37	40
Total Organic Carbon						mg/l			15			7	7	4	14	7	12	31			14			6	7	26	14	13	12	64
Total Organic Nitrogen						mg/l			5.7			9.6	11.7	7.9	11.4	5.4	14.6	6.7			5.6			9.7	11.7	7.6	11	6.7	14.3	6.8
pH						-	7.4	7.2	7.3	7.3	7.2	7.4	7.2	7.4	7.1	7.1	7.1	6.8	7.4	7.3	7.3	7.4	7.2	7.4	7.2	7.5	7.2	7.2	7.2	6.8
Tritium						Bq/l			<14												<14									

Determinand	Environmental Acceptance Limits (mg/l)	Trigger Level (mg/l)	Trigger Level (ug/l)	Control Level (mg/l)	Control Level (ug/l)	Units	SW5												SW6										
List 1							Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Dec-14	Mar-15	Jun-15	Sep-15	Dec-15	Mar-16	Jun-16	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Mar-15	Jun-15	Sep-15	Dec-15	Mar-16	Jun-16
PCBs / PCTs	0.000005	0.000005	0.005	0.000005	0.005	ug/l			< 0.006			< 0.006	< 0.026	< 0.006	< 0.006	< 0.003	< 0.000003	< 0.003	< 0.003			< 0.006			< 0.006	< 0.003	< 0.003	< 0.003	< 0.000003	< 0.003	< 0.003
Chlorobenzene	0.3	0.3	300	0.3	300	ug/l			< 2.0			< 1.0	< 1.0	< 4.0	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0			< 2.0			< 1.0	< 4.0	< 10.0	< 10.0	< 4.0	< 4.0	< 1.0
Trichloroethene	0.0001	0.0001	0.1	0.0001	0.1	ug/l			< 2.0			< 1.0	< 1.0	< 4.0	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0			< 2.0			< 1.0	< 4.0	< 10.0	< 10.0	< 4.0	< 4.0	< 1.0
Tetrachloroethene	0.0001	0.0001	0.1	0.0001	0.1	ug/l			< 2.0			< 1.0	< 1.0	< 4.0	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0			< 2.0			< 1.0	< 4.0	< 10.0	< 10.0	< 4.0	< 4.0	< 1.0
Dichloroprop	0.0001	0.0001	0.1	0.0001	0.1	ug/l			< 0.05			0.19	< 5.00	< 0.05	< 0.05	< 0.10	< 0.05	< 0.20	< 0.05			< 0.05			< 0.05	< 0.05	< 0.10	< 0.05	< 0.10	< 0.05	< 0.05
Mercury	0.00001	0.00001	0.01	0.00001	0.01	ug/l			< 0.0001			< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.00017	< 0.0001	0.00017			< 0.0001			< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Cadmium	0.0001	0.001	1	0.001	1	ug/l			< 0.0002			< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007	0.00008	< 0.00007	0.00194			< 0.0002			< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007
Cyanide	0.05	0.05	50	0.05	50	ug/l			< 0.009			< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	0.018	< 0.009	< 0.009			< 0.009			< 0.009	< 0.009	0.012	< 0.009	< 0.009	< 0.009	< 0.009
Benzo(a)Pyrene	0.00001	0.00001	0.01	0.00001	0.01	ug/l			< 0.02			< 0.04	< 0.01	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.01			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
2,4-Dimethylphenol	0.73	0.73	730	0.73	730	ug/l			< 1			< 2	< 2	< 4	< 2	< 1	< 1	< 2	< 2			< 1			< 2	< 2	< 1	< 1	< 1	< 2	< 2
4-Methylphenol	0.18	0.18	180	0.18	180	ug/l			< 1			< 2	< 2	< 4	< 2	< 1	< 1	< 2	< 2			< 1			< 2	< 2	< 1	< 1	< 1	< 2	< 2
Acenaphthene	2.57	2.57	2570	2.57	2570	ug/l			< 0.02			< 0.04	0.05	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.01			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Acenaphthylene	4	4	4000	4	4000	ug/l			< 0.02			< 0.04	< 0.01	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.01			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Anthracene	0.071	0.071	71	0.071	71	ug/l			< 0.02			< 0.04	< 0.01	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.01			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Bentazone	0.1	0.1	100	0.1	100	ug/l			< 0.05			< 0.10	< 5.00	< 0.05	< 0.05	< 0.10	< 0.05	< 0.20	< 0.05			< 0.05			< 0.05	< 0.05	< 0.10	< 0.05	< 0.10	< 0.05	< 0.05
Benzene	0.001	0.001	1	0.001	1	ug/l			< 2.0			< 1.0	< 1.0	< 4.0	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0			< 2.0			< 1.0	< 4.0	< 10.0	< 10.0	< 4.0	< 4.0	< 1.0
Benzo(ghi)perylene	0.00019	0.00019	0.19	0.00019	0.19	ug/l			< 0.02			< 0.04	< 0.01	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.01			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Benzo(a)anthracene	0.012	0.012	12	0.012	12	ug/l			< 0.02			< 0.04	< 0.01	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.01			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Benzo(b)fluoranthene	0.017	0.017	17	0.017	17	ug/l			< 0.02			< 0.04	< 0.01	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.01			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Benzo(k)fluoranthene	0.00048	0.00048	0.48	0.00048	0.48	ug/l			< 0.02			< 0.04	< 0.01	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.01			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
bis(2-ethylhexyl)phthalate	0.0048	0.0048	4.8	0.0048	4.8	ug/l			< 5			< 10	< 10	< 20	< 10	< 5	< 5	< 10	< 10			< 5			< 10	< 10	< 5	< 5	< 5	< 10	< 10
Chrysene	0.0018	0.0018	1.8	0.0018	1.8	ug/l			< 0.02			< 0.04	< 0.01	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.01			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Cis-1,2-dichloroethene	0.061	0.061	61	0.061	61	ug/l			< 2.0			< 1.0	< 1.0	< 4.0	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0			< 2.0			< 1.0	< 4.0	< 10.0	< 10.0	< 4.0	< 4.0	< 1.0
Dibenz(a,h)anthracene	0.00083	0.00083	0.83	0.00083	0.83	ug/l			< 0.02			< 0.04	< 0.01	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.01			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Ethyl Benzene	5.6	5.6	5600	5.6	5600	ug/l			< 2.0			< 1.0	< 1.0	< 4.0	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0			< 2.0			< 1.0	< 4.0	< 10.0	< 10.0	< 4.0	< 4.0	< 1.0
Fluoranthene	0.2	0.2	200	0.2	200	ug/l			< 0.02			< 0.04	< 0.01	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.01			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Fluorene	2.2	2.2	2200	2.2	2200	ug/l			< 0.02			< 0.04	0.03	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.01			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Indeno(1,2,3-cd)pyrene	0.00026	0.00026	0.26	0.00026	0.26	ug/l			< 0.02			< 0.04	< 0.01	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.01			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Mecoprop	0.00004	0.00004	0.04	0.00004	0.04	ug/l			0.86			4.8	8.25	7.63	3.16	4.56	1.14	1.05	1.78			< 0.05			< 0.05	< 0.05	< 0.08	0.06	< 0.08	< 0.05	< 0.05
Methyl Tert Butyl Ether	0.0026	0.0026	2.6	0.0026	2.6	ug/l			< 2.0			< 1.0	< 1.0	< 4.0	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0			< 2.0			< 1.0	< 4.0	< 10.0	< 10.0	< 4.0	< 4.0	< 1.0
Naphthalene	0.01	0.01	10	0.01	10	ug/l			< 0.04			< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	0.05	< 0.04			< 0.04			< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	0.05	< 0.04
Pyrene	0.106	0.106	106	0.106	106	ug/l			< 0.02			< 0.04	< 0.01	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.01			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
m,p-xylene	0.003	0.003	3	0.003	3	ug/l			< 2.0			< 1.0	< 1.0	< 4.0	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0			< 2.0			< 1.0	< 4.0	< 10.0	< 10.0	< 4.0	< 4.0	< 1.0
o-xylene	0.003	0.003	3	0.003	3	ug/l			< 2.0			< 1.0	< 1.0	< 4.0	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0			< 2.0			< 1.0	< 4.0	< 10.0	< 10.0	< 4.0	< 4.0	< 1.0
List 2																														
Ammonium	0.5	0.5		100		mg/l	58.9	11.4	3.3	2.84	15.1	48.4	64.2	1.21	48.6	1.85	21.8	73.6	28.2	0.09	0.15	0.12	0.07	0.11	0.1	0.11	0.12	0.06	0.06	0.1	0.09
Antimony	0.005	0.005				mg/l			< 0.005			< 0.005	< 0.005	< 0.010	< 0.005	< 0.005	< 0.005	< 0.010	< 0.005			< 0.005			< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Arsenic	0.05	0.05				mg/l			< 0.005			0.004	< 0.003	< 0.015	< 0.003	< 0.003	0.008	< 0.015	< 0.003			< 0.003			< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
Barium	1	1				mg/l			0.21			0.24	0.29	0.33	0.22	0.25	0.27	0.38	0.17			0.1			0.08	0.1	0.07	0.1	0.07	0.07	0.07
Berylium	0.015	0.015				mg/l			< 0.0021			< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021			< 0.0021			< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021
Boron	1	5				mg/l			0.4			1	0.9	1.1	0.7	0.8	0.5	1.2	0.6			0.3			< 0.6	0.3	0.5	0.8	0.6	0.2	0.3
Chloroethane	0.036	0.036	36			ug/l			< 2.0			< 1.0	< 1.0	< 4.0	< 10.0	< 10.0	< 4.0	< 4.0	< 4.0			< 2.0			< 1.0	< 4.0	< 10.0	< 10.0	< 4.0	< 4.0	< 1.0
Cobalt	0.361	0.361				mg/l			< 0.002			< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	0.003	< 0.015	< 0.015			< 0.015			< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015
Copper	2	2				mg/l			0.019			0.014	0.015	< 0.010	0.015	0.012	0.024	< 0.010	0.016			0.015			0.013	0.016	0.014	0.018	0.012	< 0.010	0.016
Fenoprop	0.001	0.001	1			ug/l			< 0.05			< 0.10	< 5.00	< 0.05	< 0.05	< 0.10	< 0.05	< 0.20	< 0.05			< 0.05			< 0.05	< 0.05	< 0.10	< 0.05	< 0.10	< 0.05	< 0.05
Fluoride	1.5	1.5				mg/l			< 0.15			< 0.15	< 0.15	0.2	160	0.17	< 0.15	2.7	< 0.15			< 0.15			< 0.15	< 0.15	140	< 0.15	< 0.15	1.1	< 0.15
Lead	0.01	0.011				mg/l			< 0.005			< 0.010	< 0.005	< 0.005	< 0.005	0.005	0.008	< 0.005	< 0.005			< 0.002			< 0.005	0.04	< 0.002	0.002	0.011	< 0.002	< 0.004
Molybdenum	0.07	0.07				mg/l			< 0.005			< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005			< 0.005			< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Nickel	0.02	0.06				mg/l			0.007			0.008	0.008	0.009	0.007	0.009	0.009	0.009	0.007			< 0.005			< 0.005	0.005	< 0.005	0.006	< 0.005	< 0.005	< 0.005
Nitrate	50	50				mg/l			51			56	24	23	19	26	18	15	15			3			< 3	5	6	7	< 3	5	< 3
PAH (Total)	0.0001	0.0001	0.1			ug/l			0.027			< 0.040	0.083	< 0.040	< 0.040	< 0.020	< 0.040	0.054	< 0.040			0.017			< 0.040	< 0.020	< 0.040	< 0.020	< 0.040	0.051	< 0.040
Phenanthrene	0.85	0.85	850			ug/l			< 0.02			< 0.04	< 0.01	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.01			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Phosphorous	2.2	2.2				mg/l			0.272			< 0.200	0.29	< 0.200	0.171	0.256	0.726	0.272	0.134			< 0.050			< 0.100	< 0.100	< 0.100	< 0.050	< 0.050	< 0.100	< 0.053
Selenium	0.01	0.01				mg/l			< 0.005			< 0.005	< 0.005	< 0.025	< 0.005	< 0.005	< 0.005	< 0.025	< 0.005			< 0.005			< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Titanium	-	0.044				mg/l			0.051			0.023	0.031	0.019	0.053	0.027	0.12	0.012	0.041			0.008			0.011	0.008	0.018	0.011	0.013	0.011	0.017
Tellurium	0.07	0.07	70			ug/l			< 0.11			< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38			< 0.11			< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Thallium	0.007	0.007				mg/l			< 0.003			< 0.003	< 0.003	< 0.010	< 0.003	< 0.003	< 0.003	< 0.005	< 0.003			< 0.003			< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
TPH C_6-C_{40}	0.01	0.521		1		mg/l	0.123	0.034	< 0.020	< 0.020	0.027	< 0.040	0.09	0.113	< 0.040	0.082	< 0.040	0.159	< 0.040	<0.01	<0.01	< 0.010	0.092	< 0.010	< 0.040	< 0.020	< 0.040	< 0.020	< 0.040	< 0.040	< 0.040
Uranium	0.009	0.009	9			ug/l			0.72			1	0.88	0.97	0.68	0.83	0.78	1.1	0.68			6.18			4	8.4	5	5.9	3.7	5	4
Vanadium	0.02-0.06	0.04				mg/l			< 0.010			< 0.010	< 0.010	< 0.020	0.012	< 0.010	0.018	< 0.015	< 0.010			< 0.010			< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Zinc	5	5				mg/l			0.02			0.01	< 0.01	< 0.01	0.01	0.01	0.03	< 0.02	0.01			< 0.01			< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.01
Indicator Parameters																														
Electrical Conductivity (µs/cm)	250	2500		3000		µs/cm	2440	1280	875	700	905	1460	1530	2380	1640	1900	965	3280	1310	995	840	1230	535	830	740	1270	910	995	790	1360	800
Chloride	250	250		500		mg/l	420	210	160	180	210	280	250	370	240	300	170	350	190	160	110	110	75	110	110	120	95	110	63	130	72
Sulphate	250	250				mg/l			41			40	39	40	36	39	32	30	38			200			100	170	110	95	70	130	70
Sodium	200	200				mg/l			122			198	203	265	188	205	119	261	127			99.3			77.4	98.4	69.4	84	59.5	87.4	55.8
Potassium	12	18				mg/l			31.6			73.8	73.7	96	64.2	81.3	35.4	124	38.7			13.4			11.3	12.8	10.4	14	10.3	11.3	9.2
Calcium	250	250				mg/l			51.2			74.4	79.3	94.9	64.8	74.2	46.6	118	52			163			129	194	131	143	132	170	96.3
Magnesium	50	50				mg/l			16.4			30.6	31.9	38.4	25.8	31.4	17.3	46.4	19.4			23.7			18.5	27.5	18.4	22.8	17.9	24.8	14.3
Manganese	0.05	2.9				mg/l			0.643			0.74	0.853	1.13	0.663	0.812	0.696	0.956	0.326			0.194			0.326	0.016	0.099	0.042	0.221	0.219	0.122
Iron	0.2	11.58				mg/l			6.12			3.04	7.64	8.48	5.66	5.67	17.9	6.57	3.75			0.794			0.696	0.3	0.513	1.17	0.653	0.362	0.897
Chromium	0.05	0.05				mg/l			0.005			0.007	0.01	0.007	0.006	0.006	0.01	0.008	0.005			< 0.002			< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Dissolved Oxygen						%																								
Dissolved Oxygen						mg/l	8.3	7.6	9.7	9.7	10.8	10.7	10.5	9	7.9	11.2	10.2	8.8	9.3	9	9.3	10.3	10.1	11.3	11.1	12.7	10.9	11.2	11.6	12	10
Total Suspended Solids						mg/l	75	65	45	20	30	20	30	10	35	25	95	35	25	<10	<10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Biochemical Oxygen Demand (BOD)						mg/l	9	4	3	2	5	4	4	5	4	3	4	7	2	<2	<2	< 2	2	2	< 2	< 2	2	< 2	2	2	1
Chemical Oxygen Demand (COD)						mg/l	190	75	55	51	75	120	130	100	58	89	63	130	52	47	47	68	77	74	70	64	69	67	70	59	70
Total Organic Carbon						mg/l			27			< 30	40	40	43	37	15	47	33			34			38	29	34	33	66	32	27
Total Organic Nitrogen						mg/l			52.9			58	25.1	23.6	19.3	28	18.2	15.5	15.7			3.3			2.4	5.2	5.8	6.9	2	4.6	< 0.5
pH						-	7.9	7.4	7.7	7.7	7.7	7.9	7.4	7.4	7.7	7.5	7.4	7.3	7.2	8	7.8	7.8	7.5	8	8	8.1	8.1	7.9	7.9	8.1	7.3
Tritium						Bq/l			60													<14									

Determinand	Environmental Acceptance Limits (mg/l)	Trigger Level (mg/l)	Trigger Level (ug/l)	Control Level (mg/l)	Control Level (ug/l)	Units	SW7												SW8										
List 1							Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Mar-15	Jun-15	Sep-15	Dec-15	Mar-16	Jun-16	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Mar-15	Jun-15	Sep-15	Dec-15	Mar-16	Jun-16
PCBs / PCTs	0.000005	0.000005	0.005	0.000005	0.005	ug/l			< 0.006			< 0.006	< 0.003	< 0.006	< 0.003	< 0.000003	< 0.003	< 0.003			< 0.006			< 0.006	< 0.003	< 0.006	< 0.003	< 0.000003	< 0.003	< 0.003
Chlorobenzene	0.3	0.3	300	0.3	300	ug/l			< 4.0			< 1.0	< 4.0	< 2.0	< 10.0	< 4.0	< 4.0	< 1.0			< 4.0			< 1.0	< 2.0	< 2.0	< 10.0	< 4.0	< 4.0	< 2.0
Trichloroethene	0.0001	0.0001	0.1	0.0001	0.1	ug/l			< 4.0			< 1.0	< 4.0	< 2.0	< 10.0	< 4.0	< 4.0	< 1.0			< 4.0			< 1.0	< 2.0	< 2.0	< 10.0	< 4.0	< 4.0	< 2.0
Tetrachloroethene	0.0001	0.0001	0.1	0.0001	0.1	ug/l			< 4.0			< 1.0	< 4.0	< 2.0	< 10.0	< 4.0	< 4.0	< 1.0			< 4.0			< 1.0	< 2.0	< 2.0	< 10.0	< 4.0	< 4.0	< 2.0
Dichloroprop	0.0001	0.0001	0.1	0.0001	0.1	ug/l			< 0.05			< 0.05	< 0.05	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10			< 0.05			< 0.10	< 0.05	< 0.10	< 0.20	< 0.10	< 0.05	< 0.05
Mercury	0.00001	0.00001	0.01	0.00001	0.01	ug/l			< 0.0001			< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001			< 0.0001			< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Cadmium	0.0001	0.001	1	0.001	1	ug/l			< 0.0002			< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007			< 0.0002			< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007	< 0.00007
Cyanide	0.05	0.05	50	0.05	50	ug/l			< 0.009			< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009			< 0.009			< 0.009	< 0.009	< 0.009	< 0.009	0.014	< 0.009	< 0.009
Benzo(a)Pyrene	0.00001	0.00001	0.01	0.00001	0.01	ug/l			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.02			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
2,4-Dimethylphenol	0.73	0.73	730	0.73	730	ug/l			< 1			< 2	< 2	< 1	< 1	< 1	< 2	< 2			< 1			< 2	< 2	< 1	< 1	< 1	< 2	< 2
4-Methylphenol	0.18	0.18	180	0.18	180	ug/l			< 1			< 2	< 2	< 1	< 1	< 1	< 2	< 2			< 1			< 2	< 2	< 1	< 1	< 1	< 2	< 2
Acenaphthene	2.57	2.57	2570	2.57	2570	ug/l			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.02			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Acenaphthylene	4	4	4000	4	4000	ug/l			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.02			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Anthracene	0.071	0.071	71	0.071	71	ug/l			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.02			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Bentazone	0.1	0.1	100	0.1	100	ug/l			< 0.05			< 0.05	< 0.05	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10			< 0.05			< 0.10	< 0.05	< 0.10	< 0.20	< 0.10	< 0.05	< 0.05
Benzene	0.001	0.001	1	0.001	1	ug/l			< 4.0			< 1.0	< 4.0	< 2.0	< 10.0	< 4.0	< 4.0	< 1.0			< 4.0			< 1.0	< 2.0	< 2.0	< 10.0	< 4.0	< 4.0	< 2.0
Benzo(ghi)perylene	0.00019	0.00019	0.19	0.00019	0.19	ug/l			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.02			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Benzo(a)anthracene	0.012	0.012	12	0.012	12	ug/l			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.02			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Benzo(b)fluoranthene	0.017	0.017	17	0.017	17	ug/l			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.02			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Benzo(k)fluoranthene	0.00048	0.00048	0.48	0.00048	0.48	ug/l			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.02			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
bis(2-ethylhexyl)phthalate	0.0048	0.0048	4.8	0.0048	4.8	ug/l			< 5			< 10	< 10	< 5	< 5	< 5	< 10	< 10			< 5			< 10	< 10	< 5	< 5	< 5	< 10	< 10
Chrysene	0.0018	0.0018	1.8	0.0018	1.8	ug/l			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.02			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Cis-1,2-dichloroethene	0.061	0.061	61	0.061	61	ug/l			< 4.0			< 1.0	< 4.0	< 2.0	< 10.0	< 4.0	< 4.0	< 1.0			< 4.0			< 1.0	< 2.0	< 2.0	< 10.0	< 4.0	< 4.0	< 2.0
Dibenz(a,h)anthracene	0.00083	0.00083	0.83	0.00083	0.83	ug/l			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.02			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Ethyl Benzene	5.6	5.6	5600	5.6	5600	ug/l			< 4.0			< 1.0	< 4.0	< 2.0	< 10.0	< 4.0	< 4.0	< 1.0			< 4.0			< 1.0	< 2.0	< 2.0	< 10.0	< 4.0	< 4.0	< 2.0
Fluoranthene	0.2	0.2	200	0.2	200	ug/l			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.02			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Fluorene	2.2	2.2	2200	2.2	2200	ug/l			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.02			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Indeno(1,2,3-cd)pyrene	0.00026	0.00026	0.26	0.00026	0.26	ug/l			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.02			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Mecoprop	0.00004	0.00004	0.04	0.00004	0.04	ug/l			< 0.05			< 0.05	< 0.05	0.13	< 0.08	< 0.08	< 0.16	< 0.08			< 0.05			< 0.08	< 0.05	< 0.08	< 0.16	< 0.08	< 0.05	< 0.05
Methyl Tert Butyl Ether	0.0026	0.0026	2.6	0.0026	2.6	ug/l			< 4.0			< 1.0	< 4.0	< 2.0	< 10.0	< 4.0	< 4.0	< 1.0			< 4.0			< 1.0	< 2.0	< 2.0	< 10.0	< 4.0	< 4.0	< 2.0
Naphthalene	0.01	0.01	10	0.01	10	ug/l			< 0.04			< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	0.05	< 0.04			< 0.04			< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	0.05	< 0.04
Pyrene	0.106	0.106	106	0.106	106	ug/l			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.02			< 0.04	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
m,p-xylene	0.003	0.003	3	0.003	3	ug/l			< 4.0			< 1.0	< 4.0	< 2.0	< 10.0	< 4.0	< 4.0	< 1.0			< 4.0			< 1.0	< 2.0	< 2.0	< 10.0	< 4.0	< 4.0	< 2.0
o-xylene	0.003	0.003	3	0.003	3	ug/l			< 4.0			< 1.0	< 4.0	< 2.0	< 10.0	< 4.0	< 4.0	< 1.0			< 4.0			< 1.0	< 2.0	< 2.0	< 10.0	< 4.0	< 4.0	< 2.0
List 2																														
Ammonium	0.5	0.5		100		mg/l	0.09	0.09	0.22	0.16	0.2	0.21	0.07	< 0.05	< 0.05	0.17	0.19	0.24	0.12	0.12	0.08	0.21	0.12	< 0.05	< 0.05	0.13	< 0.05	0.1	< 0.05	0.08
Antimony	0.005	0.005				mg/l			< 0.005			< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005			< 0.005			< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Arsenic	0.05	0.05				mg/l			< 0.003			< 0.005	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003			< 0.003			< 0.005	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
Barium	1	1				mg/l			0.08			0.07	0.06	< 0.05	0.06	0.06	0.06	0.06			0.06			0.07	0.05	0.05	0.05	0.07	0.05	< 0.05
Beryllium	0.015	0.015				mg/l			< 0.0021			< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021			< 0.0021			< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021
Boron	1	5				mg/l			0.4			< 0.6	< 0.3	< 0.5	0.3	< 0.6	< 0.3	0.2			0.3			< 0.6	0.5	< 0.5	0.2	< 0.6	< 0.3	0.2
Chloroethane	0.036	0.036	36			ug/l			< 4.0			< 1.0	< 4.0	< 2.0	< 10.0	< 4.0	< 4.0	< 1.0			< 4.0			< 1.0	< 2.0	< 2.0	< 10.0	< 4.0	< 4.0	< 2.0
Cobalt	0.361	0.361				mg/l			< 0.015			< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015			< 0.015			< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015
Copper	2	2				mg/l			0.012			0.012	< 0.010	< 0.010	0.014	< 0.010	< 0.010	0.011			0.015			0.013	0.011	0.028	< 0.010	< 0.010	< 0.010	0.013
Fenoprop	0.001	0.001	1			ug/l			< 0.05			< 0.05	< 0.05	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10			< 0.05			< 0.10	< 0.05	< 0.10	< 0.20	< 0.10	< 0.05	< 0.05
Fluoride	1.5	1.5				mg/l			< 0.15			< 0.15	< 0.15	140	< 0.15	< 0.15	0.73	< 0.15			< 0.15			< 0.15	< 0.15	140	0.15	< 0.15	0.22	0.17
Lead	0.01	0.011				mg/l			0.005			< 0.010	0.019	< 0.002	0.005	< 0.004	< 0.002	< 0.002			< 0.002			< 0.010	0.004	0.002	< 0.002	< 0.004	< 0.002	< 0.002
Molybdenum	0.07	0.07				mg/l			< 0.005			< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005			< 0.005			< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Nickel	0.02	0.06				mg/l			< 0.005			< 0.005	0.006	< 0.005	0.007	< 0.005	< 0.005	< 0.005			< 0.005			0.006	0.005	< 0.005	< 0.005	0.006	< 0.005	< 0.005
Nitrate	50	50				mg/l			3			< 3	3	4	< 3	< 3	3	< 3			3			< 3	6	9	5	< 3	4	4
PAH (Total)	0.0001	0.0001	0.1			ug/l			0.032			< 0.040	< 0.020	< 0.040	< 0.020	< 0.040	0.045	< 0.040			0.03			< 0.040	< 0.040	< 0.040	< 0.020	< 0.040	0.05	< 0.040
Phenanthrene	0.85	0.85	850			ug/l			< 0.02			< 0.04	< 0.02	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04			< 0.02			< 0.01	< 0.04	< 0.04	< 0.02	< 0.04	< 0.04	< 0.04
Phosphorous	2.2	2.2				mg/l			< 0.100			< 0.100	< 0.100	< 0.100	< 0.100	< 0.050	< 0.100	< 0.052			< 0.100			< 0.100	< 0.100	0.102	< 0.050	0.11	< 0.100	< 0.068
Selenium	0.01	0.01				mg/l			< 0.005			< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005			< 0.005			< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Titanium	-	0.044				mg/l			0.014			0.013	0.008	0.01	0.081	0.01	0.008	< 0.002			0.015			0.058	0.039	0.052	0.008	0.097	0.04	0.013
Tellurium	0.07	0.07	70			ug/l			< 0.11			< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38			< 0.11			< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Thallium	0.007	0.007				mg/l			< 0.003			< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.010	< 0.003			< 0.003			< 0.003	< 0.003	< 0.003	< 0.003	< 0.010	< 0.003	< 0.003
TPH C_6-C_{40}	0.01	0.521		1		mg/l	<0.01	0.029	< 0.020	< 0.020	< 0.010	< 0.040	< 0.020	< 0.040	< 0.020	< 0.040	< 0.040	< 0.040	<0.01	0.01	< 0.020	< 0.020	0.017	< 0.040	< 0.040	< 0.040	< 0.020	< 0.040	< 0.040	< 0.040
Uranium	0.009	0.009	9			ug/l			2.92			1.9	3.4	2.7	1.4	1.4	1.9	1.4			2.1			1.5	2.1	1.7	2.1	1.4	1.2	0.95
Vanadium	0.02-0.06	0.04				mg/l			< 0.010			< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010			< 0.010			< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Zinc	5	5				mg/l			< 0.01			0.03	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.01			< 0.01			< 0.01	0.02	0.02	< 0.01	0.01	< 0.02	< 0.01
Indicator Parameters																														
Electrical Conductivity (µs/cm)	250	2500		3000		µs/cm	380	515	845	400	665	615	985	920	565	595	900	575	405	315	660	335	465	515	650	515	860	485	540	445
Chloride	250	250		500		mg/l	23	38	69	46	64	74	81	60	42	44	78	40	20	15	53	35	42	57	57	33	47	35	50	29
Sulphate	250	250				mg/l			120			63	110	77	46	37	58	36			120			58	60	46	49	29	28	30
Sodium	200	200				mg/l			69.8			59.8	67.9	61.1	40.3	36.7	50.7	38.2			56.7			44	42.7	35	59.4	31	32.7	30.5
Potassium	12	18				mg/l			11.5			10.5	9.4	10.7	10	8.9	9	7.5			9.9			10.3	9.9	9	11.5	9.3	8	7.5
Calcium	250	250				mg/l			145			106	163	171	90.5	96.9	148	79			102			80.3	93.3	78.2	147	74.1	75.9	60
Magnesium	50	50				mg/l			20.5			15.7	23.3	21	15.7	14.1	21.5	11.8			18.7			15.5	16.9	13.4	19	14.3	14.4	11
Manganese	0.05	2.9				mg/l			0.656			0.887	0.77	0.315	0.5	0.714	1.13	0.504			0.354			1.03	0.29	0.382	0.069	1.2	0.296	0.256
Iron	0.2	11.58				mg/l			1.26			1.74	0.6	0.854	5.94	1.5	1.11	1.42			1.01			3.22	2.23	3.2	0.645	7.12	2.24	1.81
Chromium	0.05	0.05				mg/l			< 0.002			< 0.002	< 0.002	< 0.002	0.004	< 0.002	< 0.002	< 0.002			< 0.002			0.002	< 0.002	0.002	< 0.002	0.004	< 0.002	< 0.002
Dissolved Oxygen						%																								
Dissolved Oxygen						mg/l	8.9	8.4	9.7	10.4	11.5	13.3	12.6	10.9	9.6	11.6	12.2	9.9	8.3	7.1	9.4	10.3	11.7	12.5	10.6	9.7	11.2	12	10.7	9.2
Total Suspended Solids						mg/l	40	<10	< 10	< 10	15	< 10	< 10	10	< 10	< 10	< 10	< 10	<10	15	< 10	25	45	30	15	25	< 10	55	< 10	< 10
Biochemical Oxygen Demand (BOD)						mg/l	<2	4	2	3	2	< 2	< 2	2	< 2	2	2	2	2	3	2	4	3	3	< 2	3	< 2	3	2	< 2
Chemical Oxygen Demand (COD)						mg/l	34	68	94	68	85	75	91	93	100	63	87	76	54	40	96	84	74	81	77	71	110	73	65	81
Total Organic Carbon						mg/l			46			33	33	120	47	31	40	34			16			38	29	56	48	37	37	12
Total Organic Nitrogen						mg/l			3.4			1.7	3.4	4.4	2.9	1.8	3.4	1.5			3.2			2.9	5.5	9.1	5.4	2.7	3.8	3.8
pH						-	7.9	7.7	8.3	7.5	8.2	8.2	8.4	8.3	8.1	8.1	8.2	7.8	7.9	7.6	8	7.5	8.2	8.2	8.1	8	8.4	8.3	8.1	7.7
Tritium						Bq/l			<14												<14									

APPENDIX C:

C7 – Tullos Hill CVS Monitoring

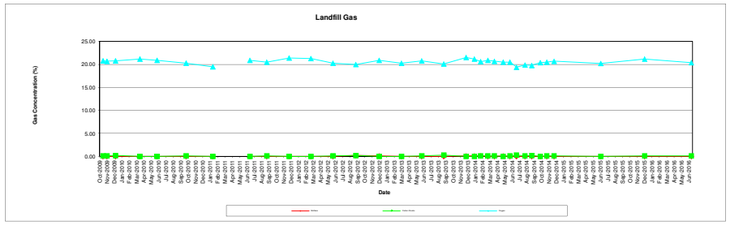
Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

| **Methane** | | | | | | (Sep Mon) | (Dec Mon) | (March Mon) | | | | | |

Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**CVS1**

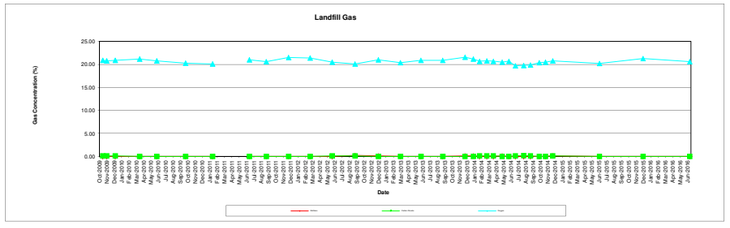
Determinand	**Units**						(Sept mon)	(Dec Mon)	(March Mon)																										
Date monitored	-	28/10/09	13/11/09	18/12/09	29/03/10	08/06/10	06/10/2010	25/01/2011	01/04/11	27/06/2011	05/09/11	06/12/11	05/03/12	04/06/12	07/09/12	12/12/12	14/03/13	06/06/13	05/09/13	06/12/13	09/01/14	04/02/14	06/03/14	02/04/14	08/05/14	05/06/14	02/07/14	06/08/14	03/09/14	09/10/14	04/11/14	04/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	15.55	15:08	14:51	13:20	10:48	12:45			12:35	15:10	09:08	11:13	10:21	09:30	10:09	11:40	13:51	10:51	10:42	10:03	13:41	12:16	13:57	10:21	14:26	13:42	09:33	10:42	12:49	14:51	12:05	11:53	10:00	10:45
Methane	% vol	0.00	0.00	0.00	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	0.20	0.10	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.10	0.10	0.20	<0.1	<0.1	0.1	<0.1		<0.1	0.10	<0.1	<0.1	0.10	0.20	<0.1	<0.1	0.1	0.3	<0.1	<0.1	0.1	0.1	0.1	<0.1	0.1	0.3	0.1	0.2	<0.1	0.1	0.1	<0.1	0.1	0.1
Oxygen	% vol	20.80	20.70	20.80	21.20	20.9	20.3	19.5		20.9	20.50	21.40	21.30	20.30	20.00	20.90	20.3	20.8	20.1	21.5	21.2	20.6	20.9	20.7	20.5	20.5	19.4	19.9	19.8	20.4	20.5	20.7	20.2	21.2	20.4
Atmospheric Pressure	mbars	1010	994	983	997	1000	997	1008		1008	996	994	1021	1013	1013	1013	1007	1020	1007	1019	994	989	1008	1009	998	1003	1008	1003	1019	987	992	1014	1018	1008	1008
Gas Pressure	mbars	0.00	0.02	0.06	0.03	+/-0.01	+/-0.01	0.05		0.00	0.04	<0.1	0.17	-0.02	<0.01	-0.22	0.01	-0.19	0.46	0.32	-0.06	-0.05	-0.53	0.13	<0.01	-0.17	0.07	-0.24	0.17	-0.07	0.06	0.05	-0.03	0.05	<0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1		<0.1		<0.1	0.1	0.2	<0.1	<0.1	<0.1	0.2	0.3	<0.1	<0.1	<0.1	0.1	-0.1	-0.1	<0.1	0.3	0.1	0.1	<0.1	<0.1	-0.1	<0.1	0.2	0.1
									No Access																										



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**CVS2**

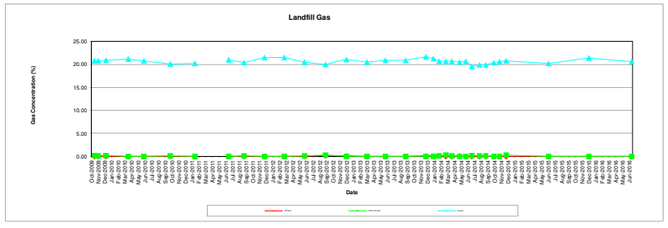
Determinand	**Units**						(Sept mon)	(Dec Mon)	(March Mon)																										
Date monitored	-	28/10/09	13/11/09	18/12/09	29/03/10	08/06/10	06/10/2010	25/01/2011	01/04/11	27/06/2011	05/09/11	06/12/11	05/03/12	04/06/12	07/09/12	12/12/12	14/03/13	06/06/13	05/09/13	06/12/13	09/01/14	04/02/14	06/03/14	02/04/14	08/05/14	05/06/14	02/07/14	06/08/14	03/09/14	09/10/14	04/11/14	04/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	15.58	15:10	14:53	13:25	10:51	12:47			12:37	15:08	09:11	11:19	10:26	09:33	10:12	11:13	13:55	10:54	10:47	10:06	13:44	12:19	14:01	10:24	14:29	13:46	09:36	10:39	12:47	14:54	12:10	11:55	10:03	10:48
Methane	% vol	0.00	0.00	0.00	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	0.20	0.10	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.10	0.10	0.10	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	0.10	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	0.1	0.2	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
Oxygen	% vol	20.90	20.80	20.90	21.20	20.8	20.3	20.1		21.0	20.60	21.50	21.40	20.50	20.10	21.00	20.4	20.9	20.9	21.6	21.2	20.7	20.8	20.7	20.5	20.7	19.7	19.8	19.9	20.4	20.5	20.8	20.2	21.3	20.6
Atmospheric Pressure	mbars	1010	994	983	997	1000	997	1008		1008	996	994	1021	1013	1013	1013	1007	1020	1007	1019	995	989	1007	1009	998	1003	1008	1003	1019	987	993	1014	1018	1008	1009
Gas Pressure	mbars	0.01	0.02	0.04	+/-0.01	+/0.01	+/-0.01	+/-0.01		0.00	0.04	<0.1	0.17	0.02	-0.17	-0.17	<0.01	<0.01	0.05	0.34	-0.07	-0.04	0.03	0.14	-0.12	<0.01	-0.09	-0.14	0.15	-0.09	0.06	0.06	-0.03	0.1	<0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1		<0.1		<0.1	0.1	0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	-0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	-0.2	<0.1	0.2	<0.1
									No Access																										



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**CVS3**

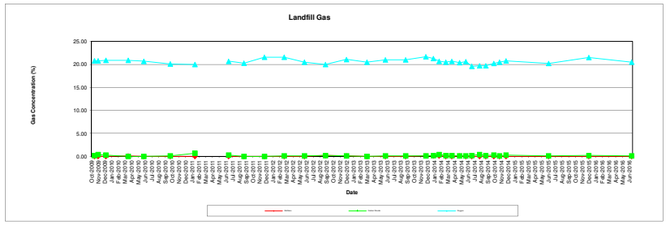
Determinand	**Units**						(Sept mon)	(Dec Mon)	(March Mon)																										
Date monitored	-	28/10/09	13/11/09	18/12/09	29/03/10	08/06/10	06/10/2010	25/01/2011	01/04/11	27/06/2011	05/09/11	06/12/11	05/03/12	04/06/12	07/09/12	12/12/12	14/03/13	06/06/13	05/09/13	06/12/13	09/01/14	04/02/14	06/03/14	02/04/14	08/05/14	05/06/14	02/07/14	06/08/14	03/09/14	09/10/14	04/11/14	04/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	15.59	15:12	14:55	13:30	10:53	12:49			12:39	15:13	09:14	11:25	10:30	09:36	10:15	11:16	13:58	10:56	10:51	10:09	13:47	12:22	14:04	10:27	14:32	13:49	09:39	10:36	12:44	14:57	12:13	12:01	10:07	10:51
Methane	% vol	0.00	0.00	0.00	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	0.20	0.10	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.20	0.10	0.20	<0.1	<0.1	0.1	<0.1		<0.1	0.10	<0.1	<0.1	0.10	0.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.3	0.1	<0.1	<0.1	0.2	0.1	0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1
Oxygen	% vol	20.80	20.80	20.90	21.20	20.8	20.1	20.2		21.0	20.40	21.50	21.50	20.50	20.00	21.10	20.5	20.9	20.9	21.7	21.3	20.7	20.7	20.7	20.5	20.7	19.6	19.9	19.9	20.4	20.6	20.8	20.2	21.4	20.6
Atmospheric Pressure	mbars	1010	994	983	997	1000	997	1008		1008	996	994	1021	1013	1014	1013	1007	1021	1007	1020	995	989	1008	1009	998	1003	1008	1003	1019	987	993	1014	1018	1008	1009
Gas Pressure	mbars	0.04	0.02	0.02	+/-0.01	0.02	+/-0.01	0.05		0.00	0.03	<0.1	0.13	0.22	-0.31	-0.16	<0.01	-0.05	0.1	<0.01	-0.07	-0.06	0.12	0.15	-0.11	<0.01	0.24	-0.05	0.22	-0.09	0.06	0.06	-0.01	-0.03	<0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1		<0.1		-0.1	0.1	<0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	0.1	-0.1	-0.2	<0.1	<0.1	-0.1	<0.1	0.1	<0.1
									No Access																										



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**CVS4**

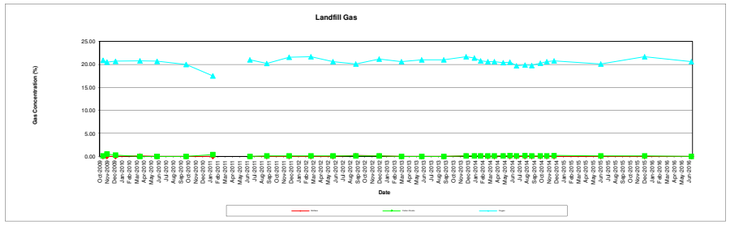
Determinand	**Units**						(Sept mon)	(Dec Mon)	(March Mon)																											
Date monitored	-	28/10/09	13/11/09	18/12/09	29/03/10	08/06/10	06/10/2010	25/01/2011	01/04/11	27/06/2011	05/09/11	06/12/11	05/03/12	04/06/12	07/09/12	12/12/12	14/03/13	06/06/13	05/09/13	06/12/13	09/01/14	04/02/14	06/03/14	02/04/14	08/05/14	05/06/14	02/07/14	06/08/14	03/09/14	09/10/14	04/11/14	04/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	16.02	15:13	14:57	12:25	10:56	12:51			12:40	15:17	09:17	11:30	10:34	09:40	10:18	11:20	14:01	10:58	10:55	10:12	13:50	12:27	14:07	10:29	14:35	13:53	09:43	10:33	12:42	15:00	12:15	12:04	10:11	10:54
Methane	% vol	0.00	0.00	0.00	0.10	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	0.20	0.10	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.20	0.40	0.30	<0.1	<0.1	0.1	0.7		0.3	<0.1	<0.1	0.10	0.10	0.20	0.10	<0.1	0.1	0.1	0.1	0.2	0.4	0.2	0.2	0.1	0.1	0.2	0.4	0.2	0.3	0.1	0.3	0.1	0.2	0.1
Oxygen	% vol	20.80	20.80	20.90	20.90	20.7	20.1	20.0		20.7	20.30	21.60	21.60	20.50	20.00	21.10	20.5	21	21	21.7	21.3	20.7	20.5	20.7	20.4	20.6	19.6	19.7	19.7	20.2	20.5	20.8	20.2	21.5	20.5
Atmospheric Pressure	mbars	1010	994	983	1001	1000	997	1008		1008	996	994	1021	1013	1014	1012	1007	1020	1007	1020	995	989	1008	1009	998	1003	1008	1003	1019	987	993	1014	1018	1008	1008
Gas Pressure	mbars	0.05	0.01	0.03	+/-0.01	0.04	+/-0.01	-0.1		0.00	<0.01	<0.1	0.08	0.15	0.12	-0.17	-0.01	-0.1	0.08	-0.02	-0.04	-0.06	-0.1	0.15	-0.12	-0.19	0.14	-0.19	0.27	-0.06	0.07	0.05	-0.01	<0.01	<0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1		<0.1		-0.1	0.1	-0.1	0.2	<0.1	<0.1	0.2	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	-0.1	0.1	<0.1	-0.1	<0.1	<0.1	<0.1	-0.1	<0.1	0.1	<0.1
									No Access																											



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	CVS5

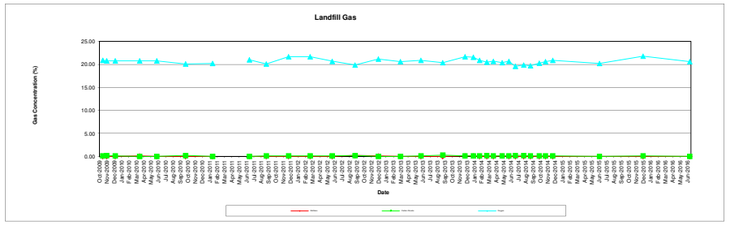
Determinand	Units						(Sept mon)	(Dec Mon)	(March Mon)																											
Date monitored	-	28/10/09	13/11/09	18/12/09	29/03/10	08/06/10	06/10/2010	25/01/2011	01/04/11	27/06/2011	05/09/11	06/12/11	05/03/12	04/06/12	07/09/12	12/12/12	14/03/13	06/06/13	05/09/13	06/12/13	09/01/14	04/02/14	06/03/14	02/04/14	08/05/14	05/06/14	02/07/14	06/08/14	03/09/14	09/10/14	04/11/14	04/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	16.03	15:16	15:02	12:30	10:59	12:56			12:42	15:20	09:19	11:36	10:38	09:43	10:21	11:24	14:05	11:01	10:58	10:15	13:53	12:30	14:10	10:32	14:38	13:56	09:46	10:30	12:36	15:03	12:18	12:07	10:15	10:57
Methane	% vol	0.00	0.00	0.00	0.10	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	0.20	0.10	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.10	0.50	0.30	<0.1	<0.1	<0.1	0.4		<0.1	0.10	0.10	0.10	0.10	0.10	0.10	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.1	<0.1
Oxygen	% vol	20.90	20.50	20.70	20.80	20.7	20.0	17.5		21.0	20.20	21.60	21.70	20.60	20.10	21.20	20.6	21	21	21.7	21.4	20.8	20.6	20.6	20.4	20.5	19.7	19.9	19.8	20.3	20.6	20.8	20.1	21.7	20.6
Atmospheric Pressure	mbars	1010	994	983	1001	1000	997	1008		1008	996	994	1021	1013	1014	1012	1007	1020	1007	1019	994	989	1008	1008	998	1003	1008	1003	1019	987	993	1014	1018	1008	1008
Gas Pressure	mbars	0.06	0.00	0.01	+/-0.01	0.01	+/-0.01	0.06		0.00	<0.01	<0.1	0.20	0.21	-0.24	-0.16	-0.02	0.03	0.09	-0.02	-0.06	-0.07	0.26	0.12	-0.13	-0.19	0.29	-0.12	0.07	-0.08	0.05	0.05	-0.03	0.09	<0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	-0.2	+/-0.1	+/-0.1	+/-0.1		<0.1	<0.1	-0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	-0.1	0.1	-0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	0.1	<0.1
									No Access																											



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**CVS6**

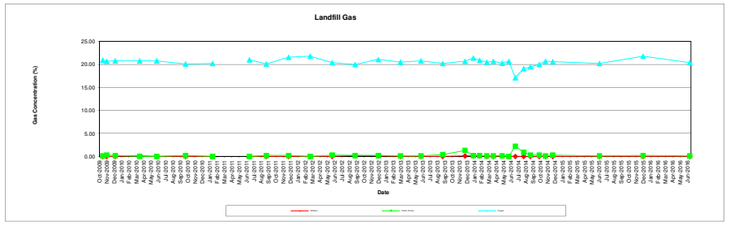
Determinand	**Units**						(Sept mon)	(Dec Mon)	(March Mon)																										
Date monitored	-	28/10/09	13/11/09	18/12/09	29/03/10	08/06/10	06/10/2010	25/01/2011	01/04/11	27/06/2011	05/09/11	06/12/11	05/03/12	04/06/12	07/09/12	12/12/12	14/03/13	06/06/13	05/09/13	06/12/13	09/01/14	04/02/14	06/03/14	02/04/14	08/05/14	05/06/14	02/07/14	06/08/14	03/09/14	09/10/14	04/11/14	04/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	16.05	15:18	15:04	12:30	11:01	12:58			12:44	15:23	09:22	11:42	10:41	09:48	10:24	11:27	14:08	11:05	11:02	10:19	13:56	12:33	14:12	10:35	14:41	14:00	09:49	10:27	12:34	15:06	12:21	12:10	10:18	11:00
Methane	% vol	0.00	0.00	0.00	0.10	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	0.20	0.10	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.10	0.20	0.10	<0.1	<0.1	0.2	<0.1		<0.1	0.10	0.10	0.10	0.10	0.20	<0.1	<0.1	0.1	0.3	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	<0.1	0.1	<0.1
Oxygen	% vol	20.90	20.80	20.80	20.80	20.8	20.1	20.2		21.0	20.10	21.70	21.70	20.70	19.90	21.20	20.6	20.9	20.4	21.7	21.6	20.9	20.5	20.7	20.4	20.7	19.6	19.9	19.7	20.3	20.6	20.9	20.2	21.8	20.6
Atmospheric Pressure	mbars	1010	994	983	1001	1000	997	1008		1008	996	994	1021	1013	1014	1012	1007	1021	1008	1020	994	989	1008	1008	997	1003	1008	1004	1019	987	993	1014	1018	1009	1008
Gas Pressure	mbars	0.06	0.04	0.00	0.01	+/-0.01	+/-0.01	0.05		0.00	-0.01	<0.1	0.13	0.26	0.03	-0.16	-0.04	0.02	0.05	-0.02	-0.05	-0.09	0.07	0.13	-0.14	-0.2	0.24	-0.03	0.03	-0.08	0.11	0.05	-0.02	0.19	<0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1		<0.1	<0.1	-0.1	0.2	0.1	0.1	-0.1	<0.1	0.1	0.1	-0.1	<0.1	<0.1	<0.1	0.8	-0.1	0.1	-0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	0.1	<0.1
									No Access																										



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	CVS7

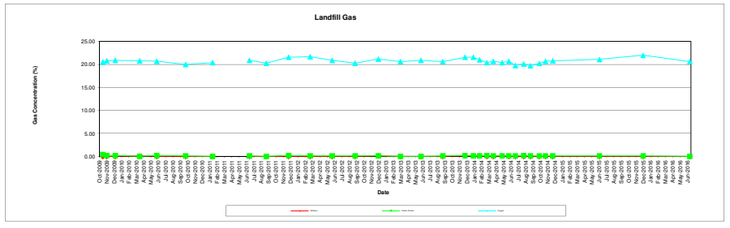
Determinand	Units						(Sept mon)	(Dec Mon)	(March Mon)																										
Date monitored	-	28/10/09	13/11/09	18/12/09	29/03/10	08/06/10	06/10/2010	25/01/2011	01/04/11	27/06/2011	05/09/11	06/12/11	05/03/12	04/06/12	07/09/12	12/12/12	14/03/13	06/06/13	05/09/13	06/12/13	09/01/14	04/02/14	06/03/14	02/04/14	08/05/14	05/06/14	02/07/14	06/08/14	03/09/14	09/10/14	04/11/14	04/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	16.07	15:19	15:06	12:35	11:05	13:00			12:45	15:27	09:25	11:47	10:46	09:51	10:27	11:29	14:12	11:07	11:06	10:21	13:59	12:36	14:15	10:38	14:44	14:04	09:52	10:25	12:28	15:09	12:24	12:13	10:22	11:03
Methane	% vol	0.00	0.00	0.00	0.10	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	0.20	0.10	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.10	0.30	0.20	<0.1	<0.1	0.2	<0.1		<0.1	0.20	0.20	<0.1	0.30	0.20	0.20	0.1	0.1	0.4	1.3	0.2	0.2	0.1	0.1	0.1	<0.1	2.2	0.9	0.3	0.3	0.1	0.3	0.1	0.2	0.1
Oxygen	% vol	20.90	20.70	20.80	20.80	20.8	20.1	20.2		21.0	20.10	21.60	21.80	20.40	20.00	21.10	20.5	20.8	20.2	20.7	21.4	20.9	20.5	20.7	20.3	20.7	17.1	19.1	19.5	20	20.7	20.6	20.2	21.8	20.4
Atmospheric Pressure	mbars	1011	994	983	1001	1000	997	1008		1008	996	995	1022	1014	1015	1012	1007	1021	1008	1020	995	989	1009	1008	998	1003	1008	1004	1019	988	993	1014	1018	1009	1009
Gas Pressure	mbars	0.11	0.04	0.02	+/-0.01	+/-0.01	+/-0.01	0.06		0.00	-0.03	<0.1	0.23	-0.09	0.05	<0.05	-0.02	0.02	0.14	-0.02	-0.08	-0.06	0.05	0.11	-0.16	-0.2	0.43	-0.17	<0.01	-0.09	0.05	0.05	-0.04	<0.01	<0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1		<0.1	<0.1	-0.1	0.2	0.1	0.2	-0.1	<0.1	<0.1	0.1	-0.1	<0.1	<0.1	<0.1	<0.1	-0.1	0.1	-0.1	-0.1	0.1	<0.1	<0.1	-0.1	<0.1	0.1	<0.1
									No Access																										



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	CVS8

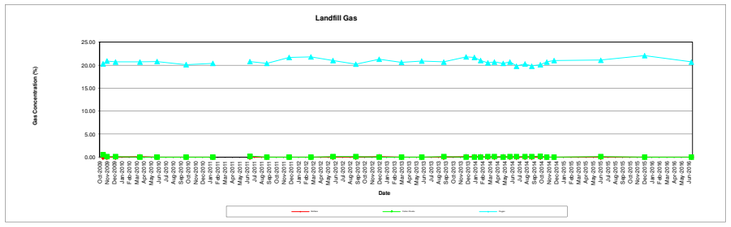
Determinand	Units						(Sept mon)	(Dec Mon)	(March Mon)																										
Date monitored	-	28/10/09	13/11/09	18/12/09	29/03/10	08/06/10	06/10/2010	25/01/2011	01/04/11	27/06/2011	05/09/11	06/12/11	05/03/12	04/06/12	07/09/12	12/12/12	14/03/13	06/06/13	05/09/13	06/12/13	09/01/14	04/02/14	06/03/14	02/04/14	08/05/14	05/06/14	02/07/14	06/08/14	03/09/14	09/10/14	04/11/14	04/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	16.09	15:22	15:09	12:35	11:07	13:06			12:46	15:29	09:34	11:52	10:50	10:07	10:31	11:32	14:16	11:10	11:10	10:24	14:02	12:39	14:18	10:40	14:46	14:08	09:55	10:22	12:26	15:12	12:27	12:10	10:25	11:06
Methane	% vol	0.00	0.00	0.00	0.10	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.40	0.20	0.20	<0.1	0.2	0.1	<0.1		0.1	<0.1	0.20	0.10	0.10	0.10	0.10	<0.1	<0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	<0.1
Oxygen	% vol	20.50	20.80	20.90	20.80	20.7	20.0	20.4		20.9	20.30	21.60	21.70	20.90	20.30	21.20	20.6	20.9	20.6	21.6	21.6	21	20.4	20.7	20.4	20.7	19.8	20.1	19.7	20.2	20.7	20.8	21.1	22	20.6
Atmospheric Pressure	mbars	1010	994	983	1001	1000	997	1008		1008	997	995	1022	1014	1014	1013	1007	1022	1008	1021	995	989	1009	1009	998	1003	1009	1004	1020	988	993	1015	1018	1009	1009
Gas Pressure	mbars	0.00	0.05	0.04	0.01	0.01	+/-0.01	0.02		0.00	-0.01	<0.1	0.06	-0.15	-0.11	-0.16	-0.02	0.15	0.15	<0.01	-0.07	-0.08	-0.05	0.12	-0.16	-0.21	0.31	-0.05	-0.07	-0.05	0.07	0.05	-0.03	-0.03	<0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1		<0.1	<0.1	-0.1	0.1	<0.1	<0.1	-0.1	0.1	0.1	0.1	-0.1	<0.1	<0.1	<0.1	<0.1	-0.1	0.1	-0.1	-0.1	0.1	<0.1	<0.1	-0.1	<0.1	0.1	<0.1
									No Access																										



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**CVS9**

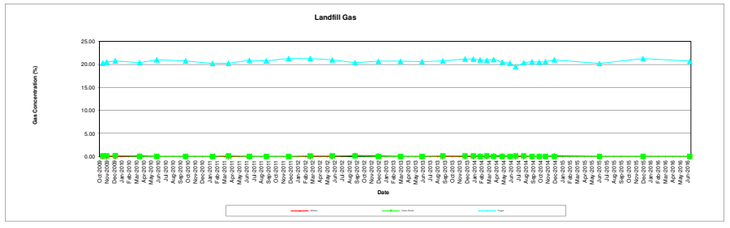
Determinand	**Units**						(Sept mon)	(Dec Mon)	(March Mon)																											
Date monitored	-	28/10/09	13/11/09	18/12/09	29/03/10	08/06/10	06/10/2010	25/01/2011	01/04/11	27/06/2011	05/09/11	06/12/11	05/03/12	04/06/12	07/09/12	12/12/12	14/03/13	06/06/13	05/09/13	06/12/13	09/01/14	04/02/14	06/03/14	02/04/14	08/05/14	05/06/14	02/07/14	06/08/14	03/09/14	09/10/14	04/11/14	04/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	16.15	15:24	15:10	12:40	11:10	13:09			12:48	15:33	09:37	11:57	10:53	10:04	10:33	11:35	14:19	11:14	11:13	10:29	14:05	12:42	14:21	10:43	14:50	14:12	09:58	10:18	12:24	15:14	12:30	12:07	10:27	11:08
Methane	% vol	0.00	0.00	0.00	0.10	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.50	0.10	0.10	<0.1	<0.1	<0.1	<0.1		0.2	<0.1	<0.1	<0.1	0.10	0.10	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	0.1	0.1	0.1	0.2	<0.1	<0.1	0.1	<0.1	<0.1
Oxygen	% vol	20.30	20.90	20.70	20.70	20.8	20.1	20.4		20.8	20.40	21.70	21.80	21.00	20.20	21.30	20.6	20.9	20.7	21.8	21.7	21	20.5	20.7	20.4	20.7	19.8	20.3	19.8	20.1	20.7	21	21.1	22.1	20.7
Atmospheric Pressure	mbars	1011	995	983	1001	1000	997	1008		1008	997	995	1023	1015	1014	1013	1008	1022	1009	1021	995	990	1009	1009	998	1004	1009	1005	1020	988	994	1015	1019	1010	1009
Gas Pressure	mbars	0.00	0.05	0.02	20.7	+/-0.01	+/-0.01	0.06		0.00	-0.03	<0.1	0.23	-0.15	-0.08	-0.16	-0.03	-0.19	-0.09	<0.01	-0.07	-0.18	-0.19	0.14	-0.17	-0.2	-0.48	-0.17	-0.41	-0.06	0.08	0.06	-0.02	0.15	<0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1		<0.1	<0.1	-0.2	<0.1	<0.1	<0.1	-0.1	0.1	0.1	0.1	-0.2	<0.1	<0.1	0.2	<0.1	-0.1	0.1	-0.2	-0.1	0.2	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1
									Padlock Seized																											



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	CVS10

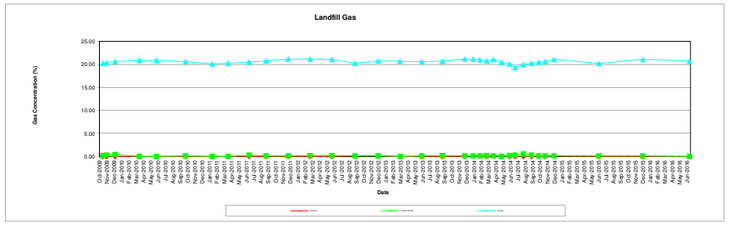
Determinand	Units						(Sept mon)	(Dec Mon)	(March Mon)																											
Date monitored	-	28/10/09	13/11/09	18/12/09	29/03/10	08/06/10	06/10/2010	25/01/2011	01/04/11	27/06/2011	05/09/11	06/12/11	05/03/12	04/06/12	07/09/12	12/12/12	14/03/13	11/06/13	05/09/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	11.52	14:02	10:48	11:30	10:23	15:56		17:45	12:14	15:54	12:27	13:12	12:14	11:00	11:56	12:20	10:06	11:56	12:21	11:08	10:08	10:27	10:37	11:29	11:54	11:49	10:19	10:07	10:37	12:56	09:59	12:53	11:10	12:32
Methane	% vol	0.00	0.00	0.00	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.20	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.10	0.10	0.20	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.10	0.10	0.10	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Oxygen	% vol	20.30	20.50	20.80	20.40	21	20.8	20.2	20.3	20.9	20.80	21.30	21.30	21.00	20.40	20.70	20.7	20.6	20.8	21.2	21.2	21	20.9	21.1	20.5	20.3	19.5	20.4	20.6	20.5	20.6	21	20.2	21.3	20.7
Atmospheric Pressure	mbars	1003	991	982	998	997	987	1008	995	1008	993	992	1017	1009	1010	1009	1002	1005	1004	1019	992	974	1005	1001	994	1005	1002	1000	1015	983	987	985	1015	1004	1005
Gas Pressure	mbars	0.00	-0.02	-0.04	+/-0.01	0.01	+/-0.01	-0.02	0.02	0.00	-15.72	<0.1	-0.05	0.09	0.07	-0.12	-0.02	-0.04	-0.24	0.09	-0.03	-0.2	-0.05	-0.1	-0.24	0.38	-0.02	-0.21	0.02	<0.01	0.07	0.07	-0.08	<0.01	-0.15
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0	<0.1	<0.1	-0.2	<0.1	<0.1	-0.1	-0.1	<0.1	<0.1	0.1	-0.2	-0.1	<0.1	0.2	0.1	-0.1	-0.1	<0.1	0.3	<0.1	-0.1	-0.1	-0.2	0.1	0.2	0.1



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	CVS11

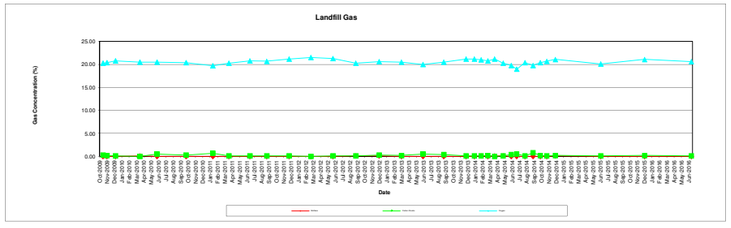
Determinand	Units						(Sept mon)	(Dec Mon)	(March Mon)																											
Date monitored	-	28/10/09	13/11/09	18/12/09	29/03/10	08/06/10	06/10/2010	25/01/2011	01/04/11	27/06/2011	05/09/11	06/12/11	05/03/12	04/06/12	07/09/12	12/12/12	14/03/13	11/06/13	05/09/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	11.58	14:04	13:47	12:30	10:19	15:58		17:40	12:12	15:57	12:24	13:17	12:17	11:04	11:59	12:23	10:09	11:59	12:24	11:12	10:11	10:30	10:40	11:31	11:57	11:53	10:22	10:09	10:39	12:59	10:04	12:57	11:13	12:35
Methane	% vol	0.00	0.00	0.00	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	0.10	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.20	0.30	0.40	<0.1	<0.1	0.1	<0.1	<0.1	0.3	0.10	0.10	0.20	0.20	0.10	0.10	<0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.1	<0.1	0.2	0.3	0.5	0.3	0.1	0.1	0.1	0.1	0.1	<0.1
Oxygen	% vol	20.20	20.40	20.60	21	20.9	20.6	20.1	20.3	20.5	20.80	21.20	21.20	21.10	20.30	20.80	20.7	20.6	20.7	21.2	21.2	21	20.8	21.1	20.5	20.1	19.3	20	20.3	20.5	20.6	21.1	20.2	21.1	20.7
Atmospheric Pressure	mbars	1003	991	982	993	997	987	1008	995	1008	993	992	1017	1010	1010	1009	1003	1005	1005	1019	992	974	1005	1000	994	1004	1002	1000	1015	983	987	985	1015	1004	1005
Gas Pressure	mbars	0.03	0.00	0.00	+/-0.01	+/-0.01	+/-0.01	0.06	0	0.00	-0.03	<0.1	0.06	<0.01	0.10	-0.10	-0.03	-0.01	<0.01	0.1	-0.05	-0.09	0.1	-0.06	-0.24	0.42	-0.03	-0.1	0.04	0.07	0.07	0.15	<0.01	0.03	0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0	<0.1	<0.1	-0.2	<0.1	0.1	0.2	-0.1	<0.1	<0.1	0.2	-0.3	-0.1	<0.1	0.1	<0.1	-0.1	-0.1	-0.1	0.2	<0.1	0.2	-0.1	-0.1	<0.1	0.1	0.1



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**CVS12**

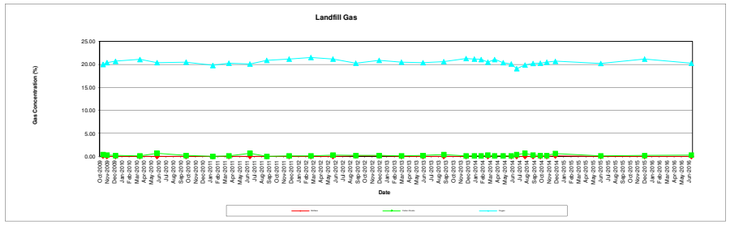
Determinand	**Units**						(Sept mon)	(Dec Mon)	(March Mon)																											
Date monitored	-	28/10/09	13/11/09	18/12/09	29/03/10	08/06/10	06/10/2010	25/01/2011	01/04/11	27/06/2011	05/09/11	06/12/11	05/03/12	04/06/12	07/09/12	12/12/12	14/03/13	11/06/13	05/09/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	12.11	14:07	13:51	11:30	10:15	16:05		17:35	12:11	16:00	12:11	13:24	12:20	11:08	12:02	12:26	10:12	12:01	12:27	11:14	10:14	10:33	10:43	11:34	11:59	11:57	10:26	10:12	10:49	13:02	10:08	13:01	11:16	12:38
Methane	% vol	0.00	0.00	0.00	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.30	0.20	0.10	<0.1	0.5	0.3	0.7	0.1	0.1	0.10	0.10	<0.1	0.10	0.10	0.30	0.2	0.5	0.4	0.1	0.1	0.1	0.2	<0.1	0.1	0.4	0.5	0.1	0.8	0.2	0.1	0.2	0.1	0.2	0.1
Oxygen	% vol	20.30	20.40	20.80	20.50	20.5	20.4	19.7	20.3	20.8	20.70	21.20	21.50	21.30	20.30	20.60	20.5	20	20.5	21.2	21.2	21	20.8	21.2	20.3	19.8	19	20.4	19.8	20.4	20.7	21.1	20.1	21.1	20.6
Atmospheric Pressure	mbars	1003	991	982	998	997	987	1008	995	1008	993	992	1018	1010	1011	1009	1002	1005	1005	1019	992	974	1005	1001	994	1004	1002	1000	1015	983	987	985	1015	1004	1005
Gas Pressure	mbars	0.00	0.03	0.01	+/-0.01	0.05	+/-0.01	0.03	0.03	0.00	-0.01	0.10	0.03	-0.07	0.09	-0.09	-0.04	0.02	-0.07	0.11	-0.03	-0.06	0.12	-0.02	-0.23	0.39	-0.15	-0.21	0.06	<0.01	0.06	0.11	<0.01	<0.01	0.3
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0	<0.1	<0.1	-0.2	<0.1	0.1	<0.1	-0.1	0.1	-0.1	0.1	-0.1	<0.1	-0.1	<0.1	<0.1	-0.1	-0.1	-0.2	0.1	<0.1	0.2	-0.1	-0.2	<0.1	0.1	0.1



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	CVS13

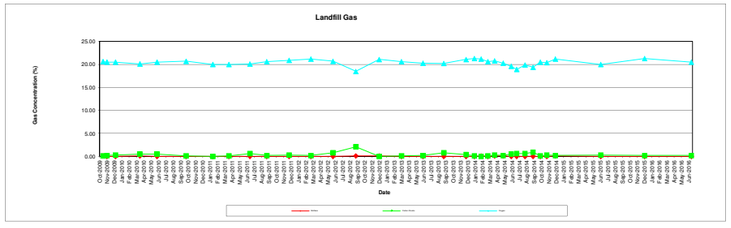
Determinand	Units						(Sept mon)	(Dec Mon)	(March Mon)																												
Date monitored	-	28/10/09	13/11/09	18/12/09	29/03/10	08/06/10	06/10/2010	25/01/2011	01/04/11	27/06/2011	05/09/11	06/12/11	05/03/12	04/06/12	07/09/12	12/12/12	14/03/13	11/06/13	05/09/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	12.13	14:08	13:53	12:30	10:13	16:07		17:30	12:09	16:02	12:09	13:29	12:24	11:12	12:14	13:52	10:15	12:04	12:30	11:17	10:17	10:37	10:45	11:38	12:02	12:01	10:30	10:24	10:51	13:06	10:11	13:05	11:20	12:41
Methane	% vol	0.10	0.00	0.00	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	0.10	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.40	0.30	0.20	0.1	0.7	0.2	<0.1	0.1	0.7	<0.1	0.10	0.10	0.30	0.20	0.20	0.1	0.2	0.4	0.1	0.1	0.1	0.3	0.1	0.1	0.1	0.4	0.7	0.3	0.2	0.2	0.6	0.1	0.2	0.3
Oxygen	% vol	20.00	20.40	20.70	21.1	20.4	20.5	19.8	20.3	20.1	20.90	21.20	21.50	21.20	20.30	20.90	20.5	20.4	20.6	21.3	21.2	21.1	20.5	21.1	20.4	20.1	19.1	19.9	20.2	20.3	20.5	20.7	20.2	21.2	20.3
Atmospheric Pressure	mbars	1003	992	982	993	997	987	1008	995	1008	993	992	1018	1009	1011	1009	1002	1005	1005	1019	992	974	1005	1001	994	1004	1003	1000	1014	983	988	986	1015	1004	1005
Gas Pressure	mbars	0.00	0.05	0.03	0.05	0.03	+/-0.01	-0.04	0.01	0.00	-0.02	<0.1	0.08	-0.14	0.12	-0.06	<0.01	<0.01	-0.26	0.12	-0.02	-0.07	0.21	-0.02	-0.24	0.39	-0.07	-0.22	0.04	-0.01	0.05	0.2	0.02	0.03	0.16
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0	<0.1	<0.1	-0.1	-0.1	<0.1	-0.1	-0.2	0.1	<0.1	0.1	-0.2	-0.1	<0.1	0.1	<0.1	-0.1	-0.1	-0.3	<0.1	<0.1	0.2	-0.1	-0.1	<0.1	0.2	<0.1



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	CVS14

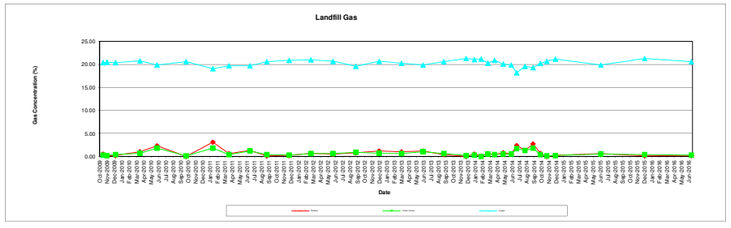
Determinand	Units						(Sept mon)	(Dec Mon)	(March Mon)																											
Date monitored	-	28/10/09	13/11/09	18/12/09	29/03/10	08/06/10	06/10/2010	25/01/2011	01/04/11	27/06/2011	05/09/11	06/12/11	05/03/12	04/06/12	07/09/12	12/12/12	14/03/13	11/06/13	05/09/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	12.15	14:10	13:54	08:24	10:10	16:09		17:25	12:06	16:05	12:05	13:33	12:28	11:17	12:17	13:56	10:24	12:07	12:33	11:20	10:20	10:41	10:48	11:41	12:04	12:04	10:33	10:26	10:53	13:09	10:13	13:08	11:24	12:43
Methane	% vol	0.10	0.00	0.00	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.10	0.20	0.30	0.5	0.5	0.1	<0.1	0.1	0.6	0.20	0.30	0.20	0.80	2.10	<0.1	0.1	0.2	0.8	0.4	0.1	<0.1	0.1	0.3	0.2	0.5	0.6	0.6	0.9	0.1	0.3	0.2	0.3	0.2	0.2
Oxygen	% vol	20.60	20.50	20.50	20.1	20.5	20.7	20.0	20.0	20.1	20.60	20.90	21.20	20.70	18.50	21.10	20.6	20.3	20.2	21.1	21.3	21.2	20.6	20.8	20.3	19.6	18.9	19.9	19.4	20.5	20.4	21.2	20	21.3	20.5
Atmospheric Pressure	mbars	1004	992	982	998	997	987	1008	995	1008	993	992	1018	1010	1011	1009	1002	1005	1005	1019	992	974	1005	1001	994	1004	1002	1000	1014	983	988	986	1015	1004	1005
Gas Pressure	mbars	0.00	0.07	0.02	+/-0.01	0.02	+/-0.01	0.25	-0.06	0.00	-0.02	<0.1	0.13	-0.07	0.27	-0.06	0.02	<0.01	-0.26	0.09	<0.01	-0.06	0.19	-0.03	-0.24	0.38	0.02	-0.15	0.04	0.03	0.08	0.17	0.03	0.07	-0.31
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	+/-0.1	+/-0.1	+/-0.1	0.2	0	<0.1	<0.1	-0.2	0.3	0.2	0.2	-0.2	0.1	-0.1	0.2	<0.1	-0.1	<0.1	<0.1	<0.1	-0.1	-0.1	0.3	0.3	<0.1	0.2	<0.1	-0.2	<0.1	0.2	<0.1



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**CVS15**

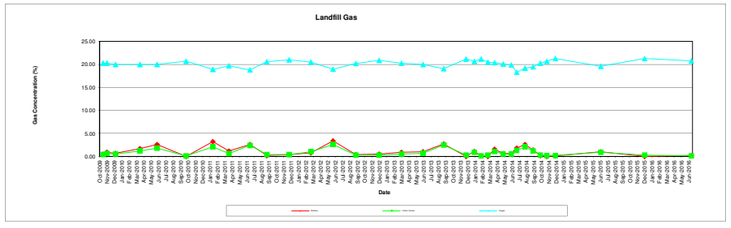
Determinand	**Units**						(Sept mon)	(Dec Mon)	(March Mon)																											
Date monitored	-	28/10/09	13/11/09	18/12/09	29/03/10	08/06/10	06/10/2010	25/01/2011	01/04/11	27/06/2011	05/09/11	06/12/11	05/03/12	04/06/12	07/09/12	12/12/12	14/03/13	11/06/13	05/09/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	12.19	14:11	13:55	12:35	10:08	16:11		17:20	12:05	16:09	12:02	13:39	12:32	11:21	12:20	13:59	10:27	12:09	12:36	11:23	10:23	10:45	10:52	11:43	12:07	12:08	10:41	10:29	10:55	13:12	10:16	13:12	11:27	12:46
Methane	% vol	0.50	0.10	0.20	1.0	2.3	<0.1	3.1	0.6	1.3	0.10	0.20	0.70	0.50	0.80	1.20	1	1.2	0.4	<0.1	0.5	0.1	0.6	0.4	0.8	0.5	2.4	1.3	2.7	0.7	<0.1	0.2	0.6	0.1	0.2
Carbon Dioxide	% vol	0.30	0.20	0.40	0.7	1.8	0.1	1.8	0.4	1.2	0.40	0.30	0.60	0.60	0.90	0.70	0.6	1	0.6	0.2	0.3	<0.1	0.5	0.4	0.5	0.5	1.7	1.3	1.8	0.4	0.1	0.2	0.5	0.4	0.3
Oxygen	% vol	20.40	20.50	20.40	20.8	19.9	20.6	19.1	19.7	19.7	20.60	20.90	21.00	20.70	19.60	20.70	20.3	19.9	20.6	21.3	21.1	21.2	20.3	20.9	20.1	19.9	18.2	19.6	19.3	20.2	20.7	21.2	19.9	21.3	20.6
Atmospheric Pressure	mbars	1003	992	982	993	997	987	1008	995	1008	994	992	1018	1009	1011	1009	1002	1004	1003	1019	992	974	1005	1001	994	1004	1002	1000	1014	983	988	986	1015	1005	1005
Gas Pressure	mbars	0.00	0.05	0.06	0.03	+/-0.01	+/-0.01	-0.03	-0.1	0.00	-0.02	<0.1	0.22	-0.07	0.21	-0.06	0.01	-0.02	-0.02	0.11	-0.02	-0.07	-0.02	-0.02	-0.24	0.36	0.21	-0.07	0.03	-0.03	0.06	0.13	0.01	0.03	<0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0	<0.1	<0.1	-0.2	0.1	<0.1	0.2	-0.2	0.1	-0.1	0.1	0.1	<0.1	<0.1	<0.1	-0.1	-0.1	-0.2	0.1	0.3	<0.1	0.2	<0.1	-0.2	<0.1	0.2	<0.1



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	CVS16

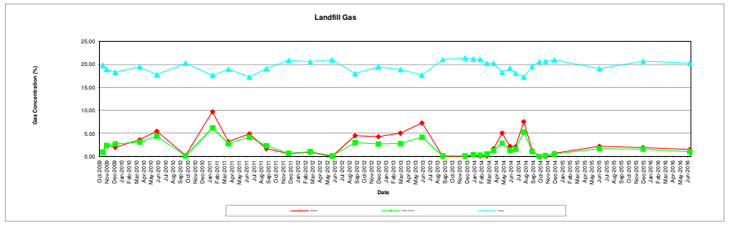
Determinand	Units						(Sept mon)	(Dec Mon)	(March Mon)																											
Date monitored	-	28/10/09	13/11/09	18/12/09	29/03/10	08/06/10	06/10/2010	25/01/2011	01/04/11	27/06/2011	05/09/11	06/12/11	05/03/12	04/06/12	07/09/12	12/12/12	14/03/13	11/06/13	05/09/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	12:32	14:16	13:59	11:40	10:05	16:17		17:15	12:03	16:11	11:49	15:24	12:36	11:25	12:23	14:02	10:30	12:12	12:39	11:27	10:27	10:48	10:55	11:46	12:10	12:12	10:44	10:48	11:04	13:15	10:19	13:15	11:31	12:49
Methane	% vol	0.50	0.90	0.70	1.7	2.6	<0.1	3.2	1.2	2.6	0.20	0.40	0.80	3.40	0.40	0.50	0.9	1	2.7	<0.1	1.1	0.1	<0.1	1.6	0.6	0.6	1.8	2.6	1.4	0.2	<0.1	0.1	1	<0.1	0.2
Carbon Dioxide	% vol	0.40	0.60	0.50	1.2	1.8	0.1	2.1	0.6	2.4	0.40	0.40	1.00	2.60	0.30	0.30	0.5	0.7	2.5	0.3	0.9	0.1	0.3	1.1	0.5	0.5	1.3	2.1	1.2	0.3	0.2	0.2	0.9	0.3	0.1
Oxygen	% vol	20.30	20.30	20.00	20.0	20	20.7	18.9	19.7	18.8	20.60	21.00	20.50	19.00	20.20	20.90	20.3	20	19.1	21.2	20.7	21.2	20.5	20.4	20.1	19.9	18.3	19.2	19.5	20.3	20.7	21.3	19.6	21.3	20.8
Atmospheric Pressure	mbars	1003	991	982	998	997	987	1008	995	1008	994	992	1018	1010	1011	1009	1002	1004	1005	1019	992	974	1005	1001	994	1004	1002	1000	1014	983	988	986	1015	1004	1005
Gas Pressure	mbars	0.02	0.00	-0.04	-0.01	+/-0.01	+/-0.01	0.07	0.02	0.00	<0.01	<0.1	-0.06	0.07	0.12	-0.04	0.02	-0.06	-0.09	0.11	-0.04	-0.08	-0.03	0.03	-0.25	0.36	0.26	-0.12	-0.04	-0.03	0.07	0.14	0.13	0.02	<0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	0.2	+/-0.1	+/-0.1	+/-0.1	0	<0.1	<0.1	-0.1	0.3	<0.1	0.1	-0.2	0.1	-0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	-0.1	-0.1	0.1	0.4	<0.1	0.2	-0.1	-0.2	<0.1	0.1	-0.1



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	CVS17

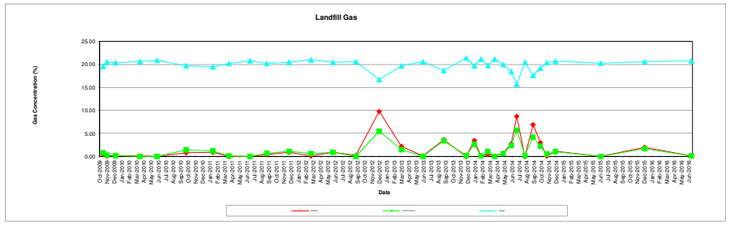
Determinand	Units						(Sept mon)	(Dec Mon)	(March Mon)																											
Date monitored	-	28/10/09	13/11/09	18/12/09	29/03/10	08/06/10	06/10/2010	25/01/2011	01/04/11	27/06/2011	05/09/11	06/12/11	05/03/12	04/06/12	07/09/12	12/12/12	14/03/13	11/06/13	05/09/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	12:39	14:18	14:01	12:40	10:02	16:21		17:31	12:01	16:14	11:41	15:29	12:39	11:29	12:27	14:06	10:33	12:14	12:42	11:29	10:30	10:50	10:58	11:49	12:13	12:16	10:48	10:51	11:09	13:18	10:22	13:22	11:34	12:52
Methane	% vol	1.00	2.40	2.00	3.6	5.5	0.2	9.7	3.2	4.9	1.70	0.60	0.90	<0.1	4.50	4.30	5.1	7.3	<0.1	<0.1	0.4	0.1	0.1	1.7	5.1	2.2	2.1	7.6	1.3	<0.1	<0.1	0.7	2.2	1.9	1.5
Carbon Dioxide	% vol	0.90	2.40	2.70	3.1	4.4	0.1	6.2	2.8	4.2	2.30	0.70	1.00	0.10	3.00	2.70	2.8	4.2	0.1	0.1	0.4	0.3	0.5	1.3	2.9	1.3	1.6	5.3	1.1	<0.1	0.2	0.5	1.7	1.6	1
Oxygen	% vol	19.80	18.90	18.30	19.5	17.8	20.3	17.6	19.0	17.3	19.10	20.90	20.60	21.00	18.00	19.50	18.9	17.7	21.1	21.4	21.2	21.1	20.2	20.3	18.3	19.2	18.1	17.3	19.6	20.6	20.7	21	19.1	20.7	20.3
Atmospheric Pressure	mbars	1003	991	982	993	997	987	1008	995	1008	993	992	1018	1010	1011	1009	1002	1004	1005	1019	992	974	1005	1001	994	1004	1002	1000	1014	983	988	986	1015	1004	1005
Gas Pressure	mbars	0.01	0.01	0.03	+/-0.01	-0.01	+/-0.01	-0.01	-0.02	0.00	-0.03	<0.1	-0.03	0.12	0.26	-0.07	-0.01	-0.05	0.09	0.12	-0.03	-0.03	-0.03	-0.04	-0.25	0.34	0.03	-0.19	-0.04	-0.03	0.05	0.13	<0.01	<0.01	<0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0	<0.1	<0.1	-0.3	0.1	0.2	-0.1	-0.2	0.1	-0.1	0.2	<0.1	-0.1	-0.2	-0.1	<0.1	-0.1	-0.1	0.2	0.3	<0.1	0.2	-0.1	-0.2	<0.1	0.2	<0.1



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**CVS18**

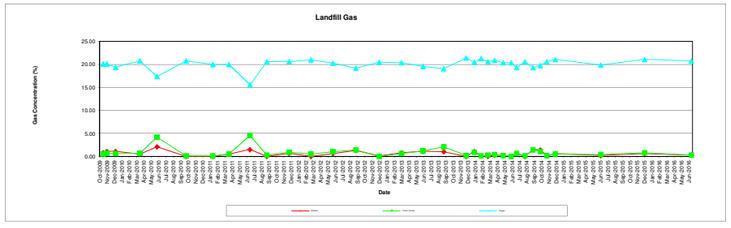
Determinand	**Units**						(Sept mon)	(Dec Mon)	(March Mon)																											
Date monitored	-	28/10/09	13/11/09	18/12/09	29/03/10	08/06/10	06/10/2010	25/01/2011	01/04/11	27/06/2011	05/09/11	06/12/11	05/03/12	04/06/12	07/09/12	12/12/12	14/03/13	11/06/13	05/09/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	12.4	14:19	14:03	11:45	09:59	16:23		17:35	11:59	16:17	11:38	15:34	12:43	11:32	13:05	14:09	10:36	12:16	12:45	11:33	10:33	10:54	11:01	11:52	12:16	12:21	10:51	10:53	11:11	13:22	10:25	13:25	11:36	12:56
Methane	% vol	0.40	0.10	0.10	0.1	<0.1	0.8	0.9	<0.1	<0.1	0.40	0.90	0.10	0.90	0.20	9.80	2.2	0.1	3.6	<0.1	3.5	0.1	0.4	0.1	0.7	2.7	8.7	<0.1	6.9	3	0.1	1.1	<0.1	2	0.1
Carbon Dioxide	% vol	0.80	0.30	0.20	<0.1	<0.1	1.4	1.2	0.1	<0.1	0.70	1.10	0.60	0.90	<0.1	5.50	1.5	<0.1	3.4	0.2	2.6	0.1	1	<0.1	0.6	2.4	5.7	0.2	4.2	2.2	0.5	1	<0.1	1.7	0.1
Oxygen	% vol	19.60	20.50	20.40	20.6	20.9	19.7	19.5	20.2	20.8	20.20	20.50	21.00	20.50	20.60	16.70	19.7	20.6	18.7	21.4	19.7	21.2	19.8	21.2	20	18.5	15.7	20.5	17.6	19.2	20.4	20.7	20.3	20.6	20.8
Atmospheric Pressure	mbars	1004	991	982	998	997	987	1008	995	1008	993	992	1018	1010	1011	1009	1001	1004	1005	1019	992	974	1006	1001	994	1004	1003	1000	1014	983	988	986	1015	1005	1005
Gas Pressure	mbars	0.01	0.01	0.02	-0.02	-0.02	+/-0.01	0.06	0	0.00	-0.04	<0.1	<0.01	<0.01	0.19	-0.11	-0.01	-0.09	0.26	0.1	-0.02	-0.1	0.05	-0.1	-0.25	0.31	-0.05	-0.21	-0.05	<0.01	0.06	0.1	<0.01	0.17	<0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0	<0.1	<0.1	-0.3	<0.1	0.2	0.2	-0.2	0.1	-0.1	0.1	<0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.1	0.2	<0.1	0.2	-0.1	-0.3	<0.1	<0.1	<0.1



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**CVS19**

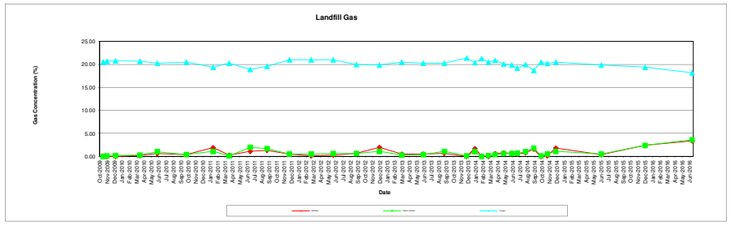
Determinand	**Units**						(Sept mon)	(Dec Mon)	(March Mon)																											
Date monitored	-	28/10/09	13/11/09	18/12/09	29/03/10	08/06/10	06/10/2010	25/01/2011	01/04/11	27/06/2011	05/09/11	06/12/11	05/03/12	04/06/12	07/09/12	12/12/12	14/03/13	11/06/13	05/09/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	12:43	14:21	14:04	12:45	09:55	16:25		17:38	11:57	16:20	11:35	15:39	12:46	11:36	13:07	14:13	10:39	12:19	12:48	11:36	10:36	10:59	11:04	11:54	12:18	12:24	10:54	10:56	11:13	13:24	10:29	13:29	11:40	12:58
Methane	% vol	0.80	1.10	1.10	0.5	2.1	<0.1	<0.1	0.5	1.5	<0.1	0.70	<0.1	0.60	1.30	0.10	0.8	1.1	1	<0.1	1.1	0.1	<0.1	0.3	0.2	<0.1	0.6	<0.1	1.5	1.4	0.1	0.6	0.2	0.6	0.3
Carbon Dioxide	% vol	0.50	0.70	0.60	0.7	4.2	0.1	0.1	0.5	4.5	0.30	0.90	0.50	1.00	1.40	<0.1	0.6	1.2	2.1	0.2	0.9	0.1	0.3	0.4	0.2	<0.1	0.6	0.1	1.4	1.1	0.2	0.5	0.4	0.8	0.3
Oxygen	% vol	20.10	20.10	19.40	20.8	17.4	20.8	20.0	20.0	15.6	20.60	20.60	21.00	20.30	19.20	20.50	20.4	19.6	19.1	21.4	20.5	21.3	20.6	20.9	20.4	20.4	19.3	20.6	19.3	19.8	20.6	21.1	19.9	21.1	20.8
Atmospheric Pressure	mbars	1004	992	983	993	997	987	1008	995	1008	994	992	1018	1011	1011	1009	1002	1004	1005	1019	992	975	1006	1001	994	1004	1003	1000	1014	983	988	986	1015	1005	1006
Gas Pressure	mbars	0.00	0.04	0.03	0.01	0.02	+/-0.01	0.04	0.00	0.00	-0.01	<0.1	-0.10	0.14	0.33	-0.10	0.06	-0.07	0.5	0.07	<0.01	-0.1	0.02	<0.01	-0.24	0.28	0.05	-0.07	-0.05	-0.04	0.05	0.07	<0.01	<0.01	<0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0	<0.1	<0.1	-0.1	<0.1	0.1	0.2	-0.1	0.1	<0.1	0.1	<0.1	0.1	<0.1	-0.1	-0.1	-0.1	-0.2	0.1	0.2	<0.1	0.1	-0.1	-0.3	<0.1	0.2	<0.1



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**CVS20**

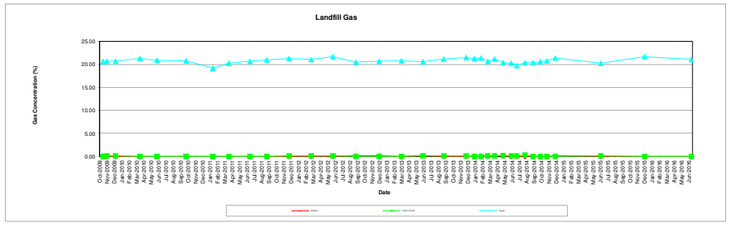
Determinand	**Units**						(Sept mon)	(Dec Mon)	(March Mon)																											
Date monitored	-	28/10/09	13/11/09	18/12/09	29/03/10	08/06/10	06/10/2010	25/01/2011	01/04/11	27/06/2011	05/09/11	06/12/11	05/03/12	04/06/12	07/09/12	12/12/12	14/03/13	11/06/13	05/09/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	12:52	14:23	14:06	11:50	09:52	16:27		17:41	11:55	16:23	11:20	15:44	12:49	11:40	13:10	14:17	10:42	12:21	12:51	11:40	10:39	11:01	11:07	11:57	12:21	12:28	10:58	11:00	11:25	13:28	10:32	13:34	11:43	13:01
Methane	% vol	0.10	0.00	0.00	0.2	0.6	0.4	1.9	0.3	1.1	1.30	0.50	0.10	0.30	0.70	2.00	0.5	0.5	0.7	<0.1	1.7	0.1	<0.1	0.6	0.8	0.7	0.5	0.8	1.6	<0.1	0.1	1.8	0.4	2.4	3.4
Carbon Dioxide	% vol	0.00	0.10	0.20	0.3	1	0.4	1.1	0.1	2.0	1.70	0.50	0.50	0.60	0.60	1.10	0.3	0.4	1.1	0.1	1	<0.1	0.2	0.4	0.6	0.6	0.7	1	1.8	0.1	0.5	1.1	0.5	2.4	3.6
Oxygen	% vol	20.50	20.70	20.80	20.7	20.3	20.5	19.4	20.3	18.9	19.60	21.00	21.00	21.00	20.00	19.90	20.5	20.3	20.3	21.4	20.4	21.3	20.5	20.9	20.1	19.9	19.2	20	18.7	20.5	20.2	20.5	19.9	19.4	18.2
Atmospheric Pressure	mbars	1003	992	983	998	997	987	1008	995	1008	994	992	1018	1011	1012	1009	1002	1004	1005	1019	992	975	1006	1001	994	1004	1003	1000	1014	983	988	986	1015	1005	1006
Gas Pressure	mbars	0.00	0.04	0.01	0.01	0.02	+/-0.01	0.08	-0.04	0.00	-0.04	0.10	0.03	-0.09	0.29	-0.14	0.04	-0.07	-0.15	0.1	-0.02	-0.11	0.07	-0.05	-0.26	0.22	0.07	-0.19	-0.09	-0.07	0.06	0.14	<0.01	0.02	-0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0	<0.1	<0.1	-0.3	-0.1	0.2	0.2	-0.1	0.1	<0.1	0.1	<0.1	-0.1	-0.1	<0.1	<0.1	-0.1	-0.2	0.2	0.2	<0.1	0.2	-0.1	-0.3	<0.1	0.2	<0.1



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**CVS21**

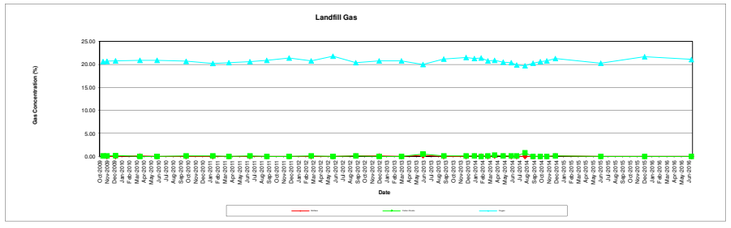
Determinand	**Units**						(Sept mon)	(Dec Mon)	(March Mon)																												
Date monitored	-	28/10/09	13/11/09	18/12/09	29/03/10	08/06/10	06/10/2010	25/01/2011	01/04/11	27/06/2011	05/09/11	06/12/11	06/03/12	04/06/12	07/09/12	12/12/12	14/03/13	11/06/13	05/09/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	12:55	14:27	14:11	12:45	09:48	16:33		17:51	11:53	16:26	11:17	11:05	12:52	11:44	13:13	14:20	10:45	12:24	12:54	11:44	10:43	11:04	11:10	12:00	12:24	12:32	11:01	11:13	11:27	13:30	10:35	13:37	11:46	13:04
Methane	% vol	0.10	0.00	0.00	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	0.10	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.00	0.10	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	0.10	0.10	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	0.1	0.1	0.2	0.1	0.1	0.3	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Oxygen	% vol	20.60	20.70	20.70	21.3	20.9	20.8	19.2	20.3	20.7	21.00	21.30	21.10	21.70	20.50	20.70	20.8	20.6	21.2	21.5	21.3	21.4	20.7	21.2	20.4	20.3	19.8	20.4	20.4	20.6	20.8	21.4	20.3	21.7	21.1
Atmospheric Pressure	mbars	1004	992	983	993	997	987	1008	995	1008	994	992	1014	1011	1012	1009	1002	1004	1005	1019	992	975	1006	1001	994	1004	1003	1000	1014	983	988	986	1015	1005	1006
Gas Pressure	mbars	0.00	0.00	0.01	+/-0.01	0.01	+/-0.01	0.31	-0.04	0.00	-0.02	0.10	0.15	0.05	0.31	-0.11	0.01	-0.12	-0.12	0.1	-0.01	-0.1	0.07	-0.05	-0.27	0.27	-0.03	-0.15	-0.12	<0.01	0.05	0.1	<0.01	0.03	0.11
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	+/-0.1	+/-0.1	+/-0.1	0.2	0	<0.1	<0.1	-0.2	-0.2	0.2	<0.1	-0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	-0.1	-0.1	-0.1	0.2	0.3	<0.1	0.2	-0.1	-0.2	<0.1	0.2	<0.1



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**CVS22**

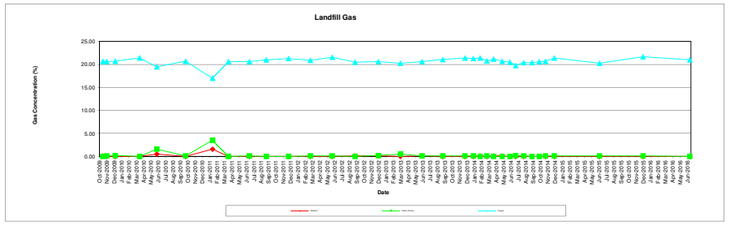
Determinand	**Units**						(Sept mon)	(Dec Mon)	(March Mon)																											
Date monitored	-	28/10/09	13/11/09	18/12/09	29/03/10	08/06/10	06/10/2010	25/01/2011	01/04/11	27/06/2011	05/09/11	06/12/11	06/03/12	04/06/12	07/09/12	12/12/12	14/03/13	11/06/13	05/09/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	12:56	14:29	14:13	11:50	09:45	16:37		17:55	11:51	16:29	11:06	11:13	12:55	11:48	13:16	14:22	10:48	12:26	12:57	11:46	10:46	11:07	11:14	12:02	12:26	12:36	11:06	11:19	11:29	13:33	10:38	13:40	11:49	13:07
Methane	% vol	0.10	0.00	0.00	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	0.10	<0.1	0.2	<0.1	<0.1	0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.10	0.10	0.20	<0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	0.10	<0.1	0.10	<0.1	<0.1	0.5	0.1	0.1	0.1	<0.1	0.1	0.3	0.1	0.1	0.1	0.8	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
Oxygen	% vol	20.60	20.70	20.80	20.9	20.9	20.7	20.2	20.4	20.6	20.90	21.40	20.80	21.80	20.40	20.80	20.8	20	21.2	21.5	21.3	21.4	20.8	20.9	20.5	20.4	19.9	19.7	20.3	20.6	20.8	21.3	20.3	21.7	21.1
Atmospheric Pressure	mbars	1004	992	983	998	997	987	1008	995	1008	994	992	1013	1011	1011	1009	1002	1004	1005	1019	992	975	1006	1001	994	1004	1003	1000	1014	983	988	986	1015	1005	1006
Gas Pressure	mbars	0.02	0.02	-0.01	0.02	+/-0.01	+/-0.01	0.05	-0.01	0.00	-0.03	<0.1	<0.01	0.03	0.31	-0.11	0.01	-0.12	-0.14	0.06	-0.04	-0.1	0.05	-0.1	-0.3	0.28	0.05	-0.02	-0.1	-0.08	0.02	0.15	<0.01	-0.02	<0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0	<0.1	<0.1	-0.2	-0.2	0.2	0.2	-0.1	0.1	<0.1	0.1	<0.1	-0.1	-0.2	<0.1	<0.1	-0.1	-0.1	0.1	0.2	<0.1	0.2	-0.1	-0.2	<0.1	0.2	<0.1



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**CVS23**

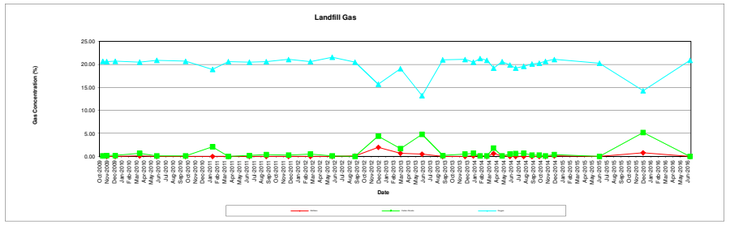
Determinand	**Units**						(Sept mon)	(Dec Mon)	(March Mon)																												
Date monitored	-	28/10/09	13/11/09	18/12/09	29/03/10	08/06/10	06/10/2010	25/01/2011	01/04/11	27/06/2011	05/09/11	06/12/11	06/03/12	04/06/12	07/09/12	12/12/12	14/03/13	11/06/13	05/09/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	13.03	14:31	14:15	12:50	09:42	16:39		18:00	11:49	16:32	11:03	11:35	13:26	11:52	13:19	14:25	10:51	12:29	13:01	11:50	10:50	11:10	11:17	12:05	12:29	12:39	11:26	11:22	11:34	13:36	10:41	13:43	11:54	13:10
Methane	% vol	0.10	0.00	0.00	<0.1	0.5	<0.1	1.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	0.10	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.00	0.10	0.20	<0.1	1.6	0.1	3.5	<0.1	0.1	<0.1	<0.1	0.10	0.10	<0.1	0.20	0.5	0.1	0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	<0.1	0.1	0.1	0.1	0.1	0.1	<0.1
Oxygen	% vol	20.70	20.60	20.70	21.4	19.5	20.7	17.0	20.6	20.6	21.00	21.30	20.90	21.60	20.50	20.60	20.3	20.6	21.1	21.4	21.3	21.4	20.8	21.2	20.7	20.5	19.8	20.4	20.4	20.6	20.7	21.4	20.3	21.7	21
Atmospheric Pressure	mbars	1004	992	983	993	997	987	1008	995	1008	994	992	1013	1010	1012	1009	1001	1004	1005	1019	992	975	1006	1001	994	1004	1003	1000	1014	983	988	986	1015	1005	1006
Gas Pressure	mbars	-0.02	0.02	0.03	0.01	+/-0.01	+/-0.01	8	0.01	0.00	-0.03	<0.1	0.07	0.09	0.22	-0.12	0.02	-0.09	0.07	0.07	-0.04	-0.1	<0.01	-0.07	-0.29	0.26	-0.03	-0.03	-0.12	-0.04	0.04	0.08	<0.01	0.05	<0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0	<0.1	<0.1	-0.2	<0.1	<0.1	<0.1	-0.1	0.1	<0.1	0.1	0.1	<0.1	-0.1	<0.1	<0.1	-0.1	-0.1	<0.1	0.1	<0.1	0.2	<0.1	-0.2	<0.1	0.1	<0.1



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**CVS24**

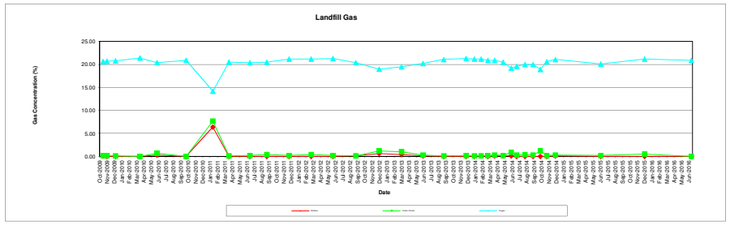
Determinand	**Units**						(Sept mon)	(Dec Mon)	(March Mon)																												
Date monitored	-	28/10/09	13/11/09	18/12/09	29/03/10	08/06/10	06/10/2010	25/01/2011	01/04/11	27/06/2011	05/09/11	06/12/11	06/03/12	04/06/12	07/09/12	12/12/12	14/03/13	11/06/13	05/09/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	13.06	14:32	14:17	11:55	09:39	16:41		18:05	11:47	16:34	10:59	11:42	13:23	11:57	13:22	14:28	10:54	12:31	13:03	11:53	10:53	11:15	11:20	12:07	12:33	12:42	11:28	11:24	11:36	13:41	10:44	13:46	11:58	13:43
Methane	% vol	0.10	0.00	0.00	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	2.00	0.7	0.5	<0.1	<0.1	0.1	0.1	<0.1	0.6	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.8	<0.1
Carbon Dioxide	% vol	0.10	0.20	0.20	0.7	0.1	0.1	2.1	<0.1	0.2	0.40	0.30	0.50	0.10	<0.1	4.40	1.7	4.8	0.2	0.5	0.7	0.1	0.1	1.8	0.1	0.5	0.6	0.7	0.3	0.3	0.1	0.4	<0.1	5.2	<0.1
Oxygen	% vol	20.70	20.60	20.70	20.5	20.9	20.7	18.9	20.6	20.5	20.60	21.10	20.60	21.60	20.50	15.70	19.1	13.2	21	21.1	20.5	21.3	20.9	19.2	20.6	19.9	19.2	19.6	20.1	20.3	20.7	21.1	20.3	14.3	20.9
Atmospheric Pressure	mbars	1004	991	982	998	997	987	1008	995	1008	994	992	1013	1011	1012	1008	1001	1004	1005	1019	992	975	1006	1001	994	1004	1002	1000	1014	983	988	986	1015	1005	1006
Gas Pressure	mbars	-0.02	0.02	0.02	+/-0.01	0.02	+/-0.01	0.06	0.1	0.00	-0.02	<0.1	0.09	0.05	0.07	-0.11	<0.01	-0.15	-0.14	0.07	-0.02	-0.09	0.05	-0.07	-0.28	0.27	<0.01	-0.14	-0.12	0.01	0.05	0.17	<0.01	0.02	<0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0	<0.1	<0.1	-0.2	<0.1	<0.1	0.2	-0.1	0.1	<0.1	0.1	0.1	-0.1	-0.1	<0.1	<0.1	-0.1	-0.1	-0.1	0.1	<0.1	0.1	<0.1	-0.3	<0.1	0.1	<0.1



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**CVS25**

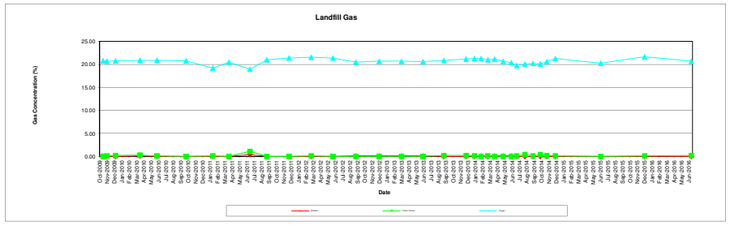
Determinand	**Units**						(Sept mon)	(Dec Mon)	(March Mon)																												
Date monitored	-	28/10/09	13/11/09	18/12/09	29/03/10	08/06/10	06/10/2010	25/01/2011	01/04/11	27/06/2011	05/09/11	06/12/11	06/03/12	04/06/12	07/09/12	12/12/12	14/03/13	11/06/13	05/09/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	13.11	14:36	14:20	12:55	09:36	16:45		18:13	11:45	16:37	10:51	11:58	13:20	12:02	14:047	14:32	10:58	12:34	13:07	11:56	10:56	11:18	11:23	12:10	12:36	12:44	11:31	11:32	11:42	13:44	10:47	13:52	12:01	13:46
Methane	% vol	0.10	0.00	0.00	<0.1	0.3	<0.1	6.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	0.60	0.4	0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.20	0.20	0.10	<0.1	0.7	<0.1	7.7	0.1	0.2	0.40	0.20	0.40	0.20	0.10	1.20	1	0.3	0.1	0.2	0.1	0.1	0.2	0.3	0.2	0.9	0.3	0.4	0.3	1.2	0.2	0.3	0.2	0.5	<0.1
Oxygen	% vol	20.60	20.70	20.80	21.4	20.4	20.9	14.2	20.5	20.4	20.50	21.20	21.20	21.30	20.40	19.00	19.5	20.2	21.1	21.3	21.2	21.2	20.9	20.9	20.5	19.2	19.6	20	20	18.9	20.6	21.1	20.1	21.2	20.9
Atmospheric Pressure	mbars	1004	991	982	993	997	987	1008	995	1008	994	992	1013	1011	1011	1008	1001	1004	1005	1019	992	975	1006	1001	994	1004	1002	1000	1014	983	988	986	1015	1005	1006
Gas Pressure	mbars	0.00	0.01	-0.04	+/-0.01	+/-0.01	+/-0.01	0.03	0.12	0.03	-0.01	<0.1	0.12	0.19	0.03	-0.11	<0.01	-0.14	0.05	-0.01	-0.02	-0.06	-0.05	-0.07	-0.29	0.24	0.12	-0.07	-0.13	-0.05	0.05	0.13	<0.01	-0.03	-0.23
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.1	<0.1	<0.1	-0.3	<0.1	0.1	0.2	-0.1	0.1	<0.1	0.2	<0.1	<0.1	-0.1	-0.1	<0.1	-0.1	-0.1	-0.1	0.3	<0.1	0.2	<0.1	-0.2	<0.1	0.1	<0.1



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**CVS26**

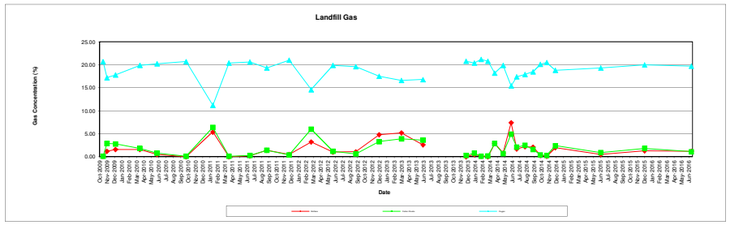
Determinand	**Units**						(Sept mon)	(Dec Mon)	(March Mon)																												
Date monitored	-	28/10/09	13/11/09	18/12/09	29/03/10	08/06/10	06/10/2010	25/01/2011	01/04/11	27/06/2011	05/09/11	06/12/11	06/03/12	04/06/12	07/09/12	12/12/12	14/03/13	11/06/13	05/09/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	13.13	14:37	14:23	12:00	09:33	16:47		18:15	11:41	16:40	10:48	12:05	13:17	12:06	14:06	14:35	11:00	12:37	13:03	11:59	10:59	11:21	11:27	12:12	12:39	12:47	11:34	11:34	11:45	13:47	10:50	13:55	12:04	13:49
Methane	% vol	0.10	0.00	0.00	0.1	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	0.10	0.10	0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.00	0.10	0.20	0.3	0.1	<0.1	0.1	<0.1	1.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	0.4	0.1	0.4	0.2	0.1	<0.1	0.1	0.2
Oxygen	% vol	20.80	20.70	20.80	20.9	20.9	20.8	19.2	20.5	19.0	21.00	21.40	21.60	21.40	20.50	20.70	20.7	20.6	20.9	21.2	21.3	21.3	21	21.2	20.7	20.4	19.8	20.1	20.2	20.1	20.6	21.3	20.3	21.7	20.7
Atmospheric Pressure	mbars	1004	991	982	998	997	987	1008	995	1008	994	992	1013	1010	1011	1008	1001	1004	1005	1015	992	975	1006	1001	994	1003	1002	1000	1014	983	988	986	1014	1005	1006
Gas Pressure	mbars	0.00	0.03	0.04	+/-0.01	-0.01	+/-0.01	0.2	-0.1	0.03	-0.02	<0.1	0.12	0.21	0.09	-0.12	0.01	-0.15	0.22	-0.34	-0.02	-0.07	0.09	-0.13	-0.3	0.23	-0.05	-0.03	-0.16	-0.09	0.05	0.11	-0.01	0.02	0.27
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0	<0.1	<0.1	-0.3	-0.1	0.1	0.2	-0.1	0.1	<0.1	0.2	0.1	-0.1	-0.1	<0.1	<0.1	-0.1	-0.1	-0.1	0.2	<0.1	0.2	<0.1	-0.2	<0.1	0.2	<0.1



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**CVS27**

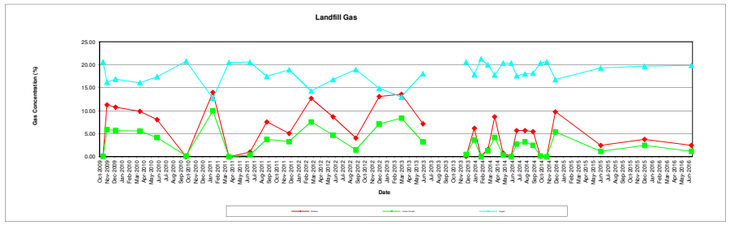
Determinand	**Units**						(Sept mon)	(Dec Mon)	(March Mon)																													
Date monitored	-	28/10/09	13/11/09	18/12/09	29/03/10	08/06/10	06/10/2010	25/01/2011	01/04/11	27/06/2011	05/09/11	06/12/11	06/03/12	04/06/12	07/09/12	12/12/12	14/03/13	11/06/13	05/09/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	13.24	14:41	14:27	13:00	09:31	16:49		18:25	12:23	16:44	10:18	12:20	13:14	12:10	14:09	14:39	11:05		12:33	12:03	11:02	11:24	11:30	12:15	12:43	12:50	11:37	11:44	11:54	13:51	10:53	13:58	12:07	13:51
Methane	% vol	0.10	1.20	1.60	1.6	0.5	<0.1	5.4	<0.1	0.2	1.40	0.50	3.20	1.00	1.10	4.80	5.2	2.6		<0.1	0.5	0.1	<0.1	2.9	0.8	7.4	1.7	2.2	2.1	0.3	0.1	2	0.5	1.3	1.2
Carbon Dioxide	% vol	0.10	2.90	2.80	1.8	0.8	0.1	6.4	0.1	0.3	1.40	0.40	6.00	1.20	0.60	3.30	3.9	3.6		0.3	0.8	0.1	0.2	2.9	0.7	4.9	2.1	2.5	1.6	0.4	0.3	2.4	0.9	1.8	1.1
Oxygen	% vol	20.70	17.20	17.80	19.9	20.2	20.7	11.2	20.4	20.6	19.30	21.00	14.60	19.90	19.60	17.50	16.6	16.8		20.8	20.4	21.2	20.8	18.2	19.9	15.4	17.4	17.9	18.5	20.1	20.5	18.8	19.3	20	19.7
Atmospheric Pressure	mbars	1002	990	981	993	997	987	1008	995	1008	993	991	1012	1010	1011	1008	1001	1004		1014	992	975	1005	1001	994	1003	1002	1000	1013	983	988	986	1014	1004	1006
Gas Pressure	mbars	0.06	0.02	0.01	-0.03	+/-0.01	+/-0.01	+/-0.01	-0.02	0.00	0.01	<0.1	0.07	0.12	0.26	-0.10	<0.01	-0.11		-0.33	-0.03	-0.09	-0.05	-0.1	-0.28	0.23	0.26	<0.01	-0.15	-0.05	0.05	0.15	-0.01	-0.02	<0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0	<0.1	<0.1	-0.3	<0.1	0.1	<0.1	-0.1	0.1	<0.1		<0.1	-0.1	-0.2	<0.1	<0.1	-0.1	-0.1	-0.2	0.1	<0.1	0.2	<0.1	-0.2	<0.1	0.1	<0.1
																			Not tested due to area covered in nettles.																	



Tullos Hill Area of Ness Farm Landfill
Field Monitoring Sheet

Sampling Location	**CVS28**

Determinand	**Units**						(Sept mon)	(Dec Mon)	(March Mon)																												
Date monitored	-	28/10/09	13/11/09	18/12/09	29/03/10	08/06/10	06/10/2010	25/01/2011	01/04/11	27/06/2011	05/09/11	06/12/11	06/03/12	04/06/12	07/09/12	12/12/12	14/03/13	11/06/13	05/09/13	06/12/13	09/01/14	06/02/14	06/03/14	03/04/14	08/05/14	10/06/14	03/07/14	06/08/14	09/09/14	09/10/14	04/11/14	10/12/14	15/06/15	14/12/15	24/06/16
Time of measurement	-	13.25	14:43	14:29	12:05	09:27	16:51		18:36	12:26	16:49	10:14	12:26	13:10	12:14	14:13	14:42	11:10		12:24	12:06	11:06	11:27	11:34	12:18	12:46	12:54	11:40	11:47	11:56	13:54	10:56	14:01	12:09	13:54
Methane	% vol	0.20	11.30	10.80	9.9	8.1	<0.1	14.0	<0.1	1	7.60	5.10	12.70	8.70	4.10	13.10	13.6	7.2		0.1	6.2	0.1	1.6	8.7	0.8	0.1	5.7	5.7	5.5	0.1	<0.1	9.8	2.5	3.8	2.5
Carbon Dioxide	% vol	0.10	5.90	5.70	5.6	4.2	0.2	10.0	<0.1	0.4	3.80	3.30	7.60	4.70	1.50	7.10	8.4	3.2		0.5	3.7	<0.1	1.3	4.2	0.4	<0.1	2.8	3.2	2.5	0.2	<0.1	5.4	1.2	2.5	1.2
Oxygen	% vol	20.60	16.20	16.90	16.1	17.4	20.8	12.7	20.5	20.6	17.50	18.90	14.30	16.80	19.00	14.90	13	18.1		20.6	17.9	21.3	20	17.8	20.4	20.4	17.6	18	18.2	20.4	20.7	16.8	19.3	19.7	19.9
Atmospheric Pressure	mbars	1002	990	981	998	997	987	1008	995	1008	993	991	1011	1010	1011	1008	1000	1003		1013	991	974	1005	1001	993	1003	1002	999	1013	983	987	985	1014	1004	1005
Gas Pressure	mbars	0.06	0.03	0.02	0.01	-0.02	+/-0.01	0.06	-0.04	0.00	-0.01	<0.1	0.10	0.19	0.05	-0.12	<0.01	-0.15		0.07	-0.04	-0.11	0.05	-0.07	-0.29	0.2	0.33	-0.09	-0.16	-0.08	0.04	0.17	<0.01	-0.02	<0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0	<0.1	<0.1	-0.2	0.1	0.1	0.1	-0.1	0.1	<0.1		<0.1	<0.1	<0.1	0.1	<0.1	-0.1	-0.1	-0.1	0.4	0.1	0.2	-0.1	-0.3	<0.1	0.1	<0.1
																			Not tested due to area covered in nettles.																	



APPENDIX C:

C8 – Ness Farm Phase 1 Passive Gas Vent Monitoring

Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Methane

	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10 (Sept mon)	11/01/11 (Dec mon)	15/03/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	07/09/12	10/12/12	27/03/13	11/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16	Average	Maximum
GV1	0.10	<0.10	2.0	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	5.90	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.70	5.90
GV2	9.60	<0.10	2.9	<0.1	<0.1	<0.1	<0.1	4.4	0.1	<0.1	0.80	3.2	3.40	0.1	0.4	6.6	12.4	2.4	<0.1	<0.1	<0.1	<0.1	9.5	8.8	<0.1	4.61	12.40
GV3	8.00	1.00	14.3	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	0.20	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	3.40	14.30
GV4	1.10	<0.10	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	0.1	<0.1	0.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.7	<0.1	<0.1	0.47	1.10
GV5	1.90	4.80	14.7	0.1	<0.1	0.2		2.7	10.6	0.7	5.50	4.3	<0.1	0.1	0.9	5.6	5.1	3.3	<0.1	6.8	11.2	<0.1	2.2	5.6	0.6	4.35	14.70
GV6	0.70	<0.10	2.4	<0.1	<0.1	<0.1	0.3	<0.1	3.8	0.2	0.90	0.7	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	5.6	<0.1	<0.1	<0.1	<0.1	1.48	5.60
GV7	10.00	1.40	14.4	0.1	<0.1	<0.1	5	0.2	0.9	<0.1	2.30	<0.1	<0.1	0.1	1.7	4	<0.1	2	<0.1	<0.1	7.3	<0.1	2.4	10.4	<0.1	4.15	14.40
GV8	1.20	<0.10	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	1	<0.1	0.80	<0.1	<0.1	0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	1.7	<0.1	0.71	1.70
GV9	8.30	9.70	24.2	6.3	<0.1	3.5	20.1	4.7	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	12.9	3.2	0.1	<0.1	5.5	<0.1	<0.1	<0.1	<0.1	<0.1	8.22	24.20
GV10	1.40	9.70	8.0	1.1	<0.1	1.0	11	1.5	3.6	1.4	6.90	4.8	0.20	0.1	1.3	1.8	0.3	<0.1	<0.1	1	<0.1	<0.1	<0.1	<0.1	<0.1	3.24	11.00
GV11	4.70	3.90	7.3	0.2	<0.1	<0.1	6.8	1.4	0.8	0.6	0.90	0.8	<0.1	0.1	0.9	2.6	<0.1	1.5	<0.1	<0.1	4.7	<0.1	0.6	2.5	<0.1	2.37	7.30
GV12	6.50	1.40	11.6	<0.1	<0.1	<0.1	<0.1	<0.1	1.1	<0.1	0.40	0.1	<0.1	0.1	0.2	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	<0.1	2.03	11.60
GV13	0.60	<0.10	0.6	<0.1	<0.1	<0.1	<0.1	<0.1	1.1	<0.1	1.10	<0.1	<0.1	0.1	<0.1	2.7	<0.1	<0.1	<0.1		<0.1	<0.1	1.8	<0.1	<0.1	1.14	2.70
GV14	38.20	49.80	49.6	41.7	2.0	23.2	11.8	30.2	35.8	33	44.20	23.6	29.80	1.6	27.6	22.4	15	3.8		34	46.1	<0.1	13	10.6	6.2	25.79	49.80
GV15	0.10	<0.10	<0.1	<0.1	<0.1	<0.1	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.20	0.50
GV16	4.40	2.10	4.0	2.7	0.4	1.0	0.6	1	1.7	0.3	4.30	2	<0.1	0.1	1.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	1.63	4.40
GV17	4.30	3.40	3.8	1.8	<0.1	<0.1	11.6	5.3	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	2.8	<0.1	<0.1	<0.1	<0.1	4.5	<0.1	<0.1	<0.1	<0.1	4.18	11.60
GV18	3.50	<0.10	6.8	<0.1	<0.1	<0.1	<0.1	<0.1	1.7	<0.1	0.80	<0.1	<0.1	0.1	0.3	1.8	<0.1	0.3	<0.1	<0.1	<0.1	0.2	1	5.7	<0.1	2.02	6.80
GV19	0.40	<0.10	0.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.50	<0.1	<0.1	0.1	<0.1	0.3	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.3	0.1	<0.1	0.31	0.60
GV20	3.40	3.70	6.6	2	0.3	1.4		3	2.9	2.7	2.00	1.1	1.00	0.6	2.1	4.5	2.3	2.4	<0.1	2.8	4.9	<0.1	0.9	4.4	0.3	2.51	6.60
GV21	20.20	21.90	7.7	22.3	<0.1	6.7	6.4	16.6	22.8	23.1	18.00	11.6	17.30	5	20.2	22	4.3	8.4	<0.1	9.3	25.6	<0.1	13.9	27	1.2	15.07	27.00
GV22	54.30	56.60	46.4	51.1	<0.1	41.4	0.9	50	52.6	54.4	52.60	26.2	27.90	11.3	46.1	32.6	45.8	45.7	<0.1	50.5	52.9	<0.1	50.5	41.1	26.1	41.68	56.60
GV23	3.00	4.20	2.7	5	0.2	0.7		1.5	5.9	5.4	4.00	4.7	<0.1	0.1	1.9	8.2	0.1	5.2	<0.1	0.4	4.2	<0.1	1.5	3.1	<0.1	3.10	8.20
GV24	0.70	0.10	0.3	0.7	<0.1	<0.1	0.8	0.7	<0.1	0.2	2.80	0.2	<0.1	0.1	1.7	0.9	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	0.74	2.80
GV25	<0.10	0.30	0.4	<0.1	<0.1	<0.1	2.5	<0.1	0.5	<0.1	0.40	<0.1	<0.1	0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	4.1	<0.1	0.98	4.10
GV26	<0.10	<0.10	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	0.6	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.7	4.3	<0.1	1.23	4.30
GV27	5.60	2.20	1.9	2.4	3.1	2.0	18.4	1	1.3	2.8	0.80	1.4	0.10	1.4	<0.1	5.3	5.3	1.4	<0.1		6.8	<0.1	4.2	4.9	0.5	3.47	18.40
GV28	0.00	<0.10	<0.1	3.7	<0.1	<0.1	0.5	1.7	<0.1	<0.1	<0.1	1	<0.1	0.1	<0.1	3.5	0.1	0.1	<0.1	4	<0.1	<0.1	2.5	0.3	<0.1	1.46	4.00
GV29	3.10	4.50	5.1	3.4	<0.1	0.1	3.7	1.4	0.1	<0.1	0.60	2	0.40	0.1	1.1	1.7	0.8	0.1	<0.1	<0.1	1.2	<0.1	0.3	<0.1	<0.1	1.65	5.10
GV30	5.10	11.00	9.3	6.1	<0.1	0.1	20.3	2.4	5.9	<0.1	<0.1	0.2	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.5	<0.1	<0.1	5.27	20.30
GV31	41.60	35.90	38.3	29.7	<0.1	<0.1	0.4	39.8	46.9	37.5	33.20	41	<0.1	0.1	44.1	39.2	<0.1	26.2	<0.1	27.3	41.1	<0.1	31.3	24.5	<0.1	32.12	46.90
GV32	0.40	<0.10	1.1	<0.1	<0.1	<0.1	0.4	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.2	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	0.4	3.2	<0.1	0.72	3.20
GV33	2.20	<0.10	1.1	<0.1	<0.1	<0.1	0.4	<0.1	5	<0.1	0.60	<0.1	<0.1	0.1	<0.1	2.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	5.1	8.4	<0.1	2.81	8.40
GV34	22.60	20.90	17.7	15.5	10.2	22.6	2	22.4	18.3	15.9	15.40	11.3	17.20	9.2	21.7	10	16.3	14.5	<0.1	20.2	23.4	<0.1	17.6	<0.1	5.4	15.92	23.40
GV35	30.20	24.10	24.7	20.1	20.6	17.8	1	19.4	26.8	25.9	18.50	15.2	<0.1	14.1	35	28.7	22.2	0.4	<0.1	2.2	34	<0.1	20.8	34	1.3	19.86	35.00
GV36	0.20	<0.10	<0.1	<0.1	<0.1	<0.1	13.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	2.80	13.30
GV37	15.20	8.10	19.7	9.1	<0.1	1.7	1.6	5.5	15.5	2.5	13.40	4.9	<0.1	0.1	16.9	17.4	0.7	12.4	<0.1	0.7	4.7	<0.1	3.7	7.4	<0.1	8.06	19.70
GV38	8.50	7.40	18.2	5.1	<0.1	<0.1	0.4	0.4	3.5	0.1	3.00	1.1	<0.1	0.1	0.8	1.9	<0.1	3.4	<0.1	<0.1	1.3	<0.1	0.2	4	0.4	3.32	18.20
GV39	0.70	0.10	0.8	<0.1	<0.1	<0.1	13.3	<0.1	<0.1	<0.1	0.20	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	3.3	0.1	1.73	13.30
GV40	0.10	0.30	0.7	<0.1	<0.1	<0.1	0.6	<0.1	1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	0.7	<0.1	0.47	1.00
GV41	21.20	29.50	23.4	25.9	16.2	28.9	11.7	19.3	18.8	24.2	17.20	24.7	9.40	28.9	29.7	20.1	27.9	16.8	<0.1	12.6		<0.1	8.6	13.8	3.6	19.65	29.70
GV42	15.00	20.00	23.1	14.7	4.0	12.5	23.7	14.6	15.7	20.1	12.80	8.5	0.30	22.9	34.4	19.7	12.4	1.5	<0.1	8.8	23.6	<0.1	9.1	23.3	0.7	14.84	34.40
GV43	23.10	27.40	23.6	22.8	10.1	2.4	1.3	12.5	14.2	24.1	13.50	5.2	1.50	12	39.7	9.6	1.1	2.3	<0.1	<0.1	10.6	<0.1	3.5	5.4	<0.1	12.66	39.70
GV44	3.50	6.20	10.7	2.7	0.4	<0.1	32.9	0.6	0.5	0.4	0.50	<0.1	<0.1	0.1	<0.1	0.7	<0.1	<0.1	<0.1	1	0.4	<0.1	<0.1	<0.1	<0.1	4.33	32.90
GV45	0.10	<0.10	<0.1	<0.1	<0.1	<0.1	0.5	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.23	0.50
GV46	1.50	0.10	2.7	<0.1	<01	<0.1	20.1	<0.1	1.3	<0.1	0.80	0.3	<0.1	0.1	1	0.9	<0.1	0.4	<0.1	<0.1	1.4	<0.1	3.5	5.8		2.85	20.10
GV47	2.20	0.10	0.6	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	0.30	<0.1	<0.1	0.1	0.3	0.9	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.9	1.5	<0.1	0.65	2.20
GV48	4.60	1.00	1.5	2.1	<0.1	0.3	0.6	0.3	<0.1	<0.1	0.10	0.1	4.30	0.5	0.5	1	0.2	0.1	<0.1	0.3	<0.1	<0.1	0.4	<0.1	<0.1	1.05	4.60
GV49	29.70	43.50	31.6	27.2	21.8		28.3	34.2	30.5	28.5	22.70	18.5	19.50	36.7	38.9	40.8	27.7	9.8	<0.1	27.2	45.3	<0.1	39.3	36.9	<0.1	30.41	45.30
GV50	4.20	2.80	2.9	2	0.5	0.3	0.5	1.4	1.4	0.8	2.00	1.3	0.10	<0.1	1.7	2.6	0.9	0.2	<0.1	0.6	2.4	<0.1	0.6	1.2	<0.1	1.45	4.20
GV51	0.10	<0.10	0.4	0.2	<0.1	<0.1	28.3	0.3	0.2	<0.1	0.20	0.1	0.10	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	0.1	0.3	<0.1	0.2	<0.1	<0.1	2.37	28.30
GV52	3.40	2.90	5.0	3.1	0.1	0.2		0.4	2.1	1.1	1.20	1.9	<0.1	0.1	11.1	1.4	<0.1	2.1	<0.1	1.4	4.3	<0.1	0.9	2.3	<0.1	2.37	11.10
GV53	2.80	<0.10	1.0	0.2	<0.1	<0.1	0.9	<0.1	3.1	<0.1	<0.1	<0.1	<0.1	0.1	3	2.2	<0.1	0.9	<0.1	<0.1	0.9	<0.1	1.5	0.1	<0.1	1.39	3.10

0 - 10%	
10 - 20%	
20 - 30%	
30 - 40%	
40 - 60%	

All results

Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Carbon Dioxide

	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10 (Sept mon)	11/01/11 (Dec mon)	15/03/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	07/09/12	10/12/12	27/03/13	11/06/13	09/09/13	11/12/13	07/13/2014	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16	Average	Maximum
GV1	0.80	0.40	2.4	<0.1	0.5	1.2	<0.1	0.2	2.1	0.4	5.70	0.6	1.30	0.1	0.1	1.2	0.9	0.8	0.1	0.4	0.7	0.1	0.4	<0.1	<0.1	0.97	5.70
GV2	19.00	<0.10	17.7	<0.1	<0.1	<0.1	0.2	12.2	0.3	<0.1	16.20	6.4	6.70	<0.1	2.1	17.2	18.1	10.3	0.1	<0.1	0.1	0.1	20.9	19.4	<0.1	9.82	20.90
GV3	5.00	1.00	8.8	<0.1	0.1	<0.1	2	2.2	<0.1	0.1	0.40	0.1	<0.1	<0.1	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	<0.1	0.1	<0.1	1.17	8.80
GV4	1.70	0.30	1.1	0.3	0.2	0.7	0.9	2.9	0.2	0.3	0.60	0.7	<0.1	0.1	0.3	1.9	2	0.3	0.6	1.1	1.2	0.3	3.2	0.2	0.7	0.91	3.20
GV5	1.70	3.20	9.7	0.1	0.1	0.4		1.6	6.9	1.0	3.80	3.1	0.80	<0.1	0.8	3.8	2.5	2.5	0.1	5.3	7.1	0.1	1.6	3.4	0.4	2.61	9.70
GV6	1.20	0.50	2.7	<0.1	0.2	<0.1	6.1	<0.1	2.4	0.6	0.90	0.6	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.5	2.9	0.1	<0.1	<0.1	<0.1	1.35	6.10
GV7	8.50	3.50	14.1	0.5	0.2	1.2	10	2.6	2.0	0.4	3.70	1.5	0.20	0.3	2.1	4.6	0.5	4.2	0.1	0.3	5.9	0.7	2.3	6.6	<0.1	3.17	14.10
GV8	2.60	<0.10	3.3	0.1	0.2	<0.1	<0.1	0.5	2.3	0.7	4.10	0.3	<0.1	<0.1	<0.1	1.8	0.5	1.3	0.4	0.2	1.4	0.2	1.5	2.8	0.4	1.29	4.10
GV9	7.30	4.70	14.6	4.6	<0.1	3.1	10.1	3.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	9.2	3.1	<0.1	0.1	3.7	0.1	0.1	0.1	<0.1	<0.1	4.29	14.60
GV10	1.30	4.70	4.7	0.9	0.5	1.2	6.7	1.3	2.8	1.1	4.20	3.6	0.20	<0.1	0.8	1.6	0.4	0.1	0.1	1	0.1	0.1	<0.1	<0.1	<0.1	1.78	6.70
GV11	3.90	2.80	4.9	0.1	<0.1	<0.1	5.9	1.6	0.6	0.7	0.80	0.6	<0.1	<0.1	0.6	2	0.1	1.5	0.1	0.2	2.7	0.1	0.4	1.6	<0.1	1.56	5.90
GV12	6.00	1.80	9.9	<0.1	0.1	<0.1	0.4	<0.1	0.9	0.1	0.50	0.2	<0.1	<0.1	0.2	0.6	0.1	0.3	0.1	0.1	0.2	0.1	0.2	0.2	<0.1	1.16	9.90
GV13	3.50	0.80	4.1	<0.1	0.6	<0.1	0.1	0.1	2.8	1.9	2.80	1.8	<0.1	<0.1	<0.1	3.5	1.4	0.1	0.1		0.2	0.1	1.5	<0.1	<0.1	1.49	4.10
GV14	24.70	28.80	28.4	25.4	1.8	13.1	13.8	19.6	24.2	22.4	29.10	15.5	23.10	<0.1	17	13.4	10.2	3.4		16.8	25.4	0.1	7.7	5.6	2.2	16.16	29.10
GV15	0.20	<0.10	<0.1	<0.1	<0.1	0.1	0.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	0.1	0.1	0.1	0.1	0.1	<0.1	<0.1	0.16	0.60
GV16	3.30	1.40	3.3	2.7	0.6	0.9	2.5	1.7	1.6	0.4	3.00	2	0.10	<0.1	0.8	0.6	0.2	0.1	0.1	<0.1	0.1	0.1	0.3	<0.1	<0.1	1.23	3.30
GV17	4.80	3.90	4.8	4.2	<0.1	<0.1	13.8	7.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	2.4	0.1	0.1	0.1	0.5	2.4	0.1	<0.1	<0.1	<0.1	3.42	13.80
GV18	2.70	0.10	4.4	<0.1	0.1	<0.1	0.5	<0.1	1.4	0.1	0.80	<0.1	<0.1	<0.1	0.3	1.8	0.1	0.6	0.1	0.1	0.1	0.1	0.8	3.1	<0.1	0.96	4.40
GV19	1.30	0.20	2.5	0.9	0.7	0.3	<0.1	0.4	0.9	0.3	2.20	1.3	<0.1	0.1	0.4	2	0.8	1.5	0.2	0.7	0.5	0.8	1.8	1.1	0.2	0.92	2.50
GV20	2.30	2.60	4.2	1.6	0.4	1.4		2.0	1.8	2.0	1.60	0.8	0.70	0.3	1.5	2.8	1.7	1.6	0.1	1.9	3	0.1	0.6	1.7	0.1	1.53	4.20
GV21	11.50	12.70	4.6	13.8	0.2	5.0	2	8.8	14.5	14.7	11.20	7.2	13.30	4.5	11.9	13.4	3.1	4.6	0.1	5.1	14.3	0.1	8	14.9	0.8	8.01	14.90
GV22	28.00	29.20	25.7	30.6	<0.1	29.5	1	31.5	35.7	33.7	30.30	16.8	25.20	9	26.4	19.7	31	28.2	0.1	29.6	33.4	0.1	30	28.1	13.5	23.60	35.70
GV23	2.10	2.90	2.5	5.6	1.2	1.4		1.5	4.3	3.5	3.30	3.5	<0.1	<0.1	1.2	5.9	0.2	3.6	0.1	0.4	2.3	0.1	1	1.4	<0.1	2.29	5.90
GV24	0.30	0.10	0.2	0.7	<0.1	<0.1	1	0.5	<0.1	0.4	1.50	0.1	<0.1	<0.1	0.9	0.6	0.1	0.1	0.1	1.1	0.1	0.1	<0.1	<0.1	<0.1	0.46	1.50
GV25	0.30	0.40	0.9	<0.1	<0.1	<0.1	2	<0.1	0.4	<0.1	1.20	<0.1	<0.1	<0.1	0	0.5	0.1	0.5	0.1	<0.1	0.2	0.1	0.2	2.6	<0.1	0.63	2.60
GV26	4.80	<0.10	2.9	<0.1	<0.1	<0.1	0.9	<0.1	4.1	<0.1	3.70	0.4	<0.1	<0.1	1.5	2.4	0.2	3.2	0.1	0.5	0.2	0.1	4.3	14.2	<0.1	2.72	14.20
GV27	3.90	1.70	1.3	1.8	2.1	1.6	9.8	0.6	0.8	1.9	0.70	1	0.10	0.9	0.3	2.5	2.6	0.8	0.1		3.9	0.1	2.1	3	0.3	1.83	9.80
GV28	0.00	<0.10	<0.1	5	<0.1	0.1	1.2	2.9	<0.1	<0.1	<0.1	1.7	<0.1	<0.1	0.1	4.6	0.4	<0.1	0.1	3.9	0.1	0.1	2.1	<0.1	<0.1	1.59	5.00
GV29	3.20	2.60	3.1	3.1	0.5	0.2	5	1.2	0.1	<0.1	0.50	1.3	0.20	<0.1	0.7	1.1	0.8	<0.1	0.1	0.1	0.8	0.1	0.2	<0.1	<0.1	1.25	5.00
GV30	3.00	4.80	4.6	3.6	0.1	0.3	25.2	1.4	3.5	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	0.1	0.1	1	<0.1	0.1	2.84	25.20
GV31	29.70	26.50	25.5	24.3	<0.1	<0.1	0.7	29.5	31.6	27.9	28.20	29.4	<0.1	<0.1	30	28.5	0.1	26	0.1	24.9	30.3	0.1	23	24.1	<0.1	22.02	31.60
GV32	0.50	0.10	1.2	<0.1	<0.1	<0.1	0.6	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	0.1	0.7	0.1	<0.1	0.4	0.1	0.5	1.9	<0.1	0.53	1.90
GV33	10.40	4.70	5.5	0.7	<0.1	<0.1	1.2	<0.1	12.9	<0.1	12.90	<0.1	<0.1	<0.1	<0.1	6.4	0.1	1.1	0.1	<0.1	0.1	0.1	6.4	10.2	<0.1	4.85	12.90
GV34	12.20	11.30	9.9	9.4	7.3	12.3	8.7	11.5	10.7	8.9	8.60	6.5	10.70	4.1	10	4.4	8.5	7.4	0.1	9.6	9.9	0.1	8.6	<0.1	2.5	8.05	12.30
GV35	15.60	12.70	13.0	11.7	16.3	10.4	1	11.2	16.8	15.9	10.50	8.8	<0.1	7.4	18	15	10.2	0.3	0.1	1	19	0.1	10.7	11.8	0.9	9.93	19.00
GV36	0.10	<0.10	<0.1	<0.1	<0.1	<0.1	9.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	0.1	0.1	0.1	0.1	0.1	<0.1	<0.1	1.12	9.30
GV37	8.30	4.60	11.6	6.4	0.9	2.5	2.6	3.8	10.5	3.9	9.00	3.3	<0.1	0.3	9.2	10.2	0.5	10.2	0.1	0.9	2.7	0.1	2.1	3.7	<0.1	4.67	11.60
GV38	4.80	4.60	14.1	4.1	0.1	<0.1	1.4	0.3	2.4	0.4	2.20	0.8	<0.1	<0.1	0.5	1.3	0.1	2.6	0.1	0.8	1	0.1	0.2	2.4	0.3	2.03	14.10
GV39	0.50	0.70	0.7	0.3	0.3	0.1	9.3	0.2	<0.1	0.1	0.40	<0.1	<0.1	0.1	0.2	0.6	0.2	0.2	0.1	0.2	0.6	0.1	0.3	2.5	0.3	0.82	9.30
GV40	0.20	1.80	2.3	0.9	0.6	<0.1	2.2	0.1	2.5	0.4	0.60	0.6	<0.1	0.3	0.1	1.3	0.4	0.3	0.4	0.3	0.5	0.4	3.3	1.8	0.3	0.94	3.30
GV41	12.10	15.70	12.7	15.1	11.4	16.1	6.5	10.5	10.9	13.6	9.70	15.1	5.50	13.6	14.1	9.2	12.8	8.6	0.1	6.1		0.1	4.3	6.5	2.1	9.68	16.10
GV42	8.50	10.60	14.0	9.5	2.7	6.7	10.5	7.7	9.6	11.5	7.40	5.2	0.10	10.9	17.3	10.7	6.6	1.2	0.1	4.5	11.2	0.1	5.1	10.4	0.5	7.30	17.30
GV43	13.30	15.20	13.1	13.7	6.9	2.0	17.3	4.3	8.5	15.0	7.60	3.1	1.40	7.1	20.7	4.9	1	1.7	0.1	<0.1	5.7	0.1	1.9	2.2	<0.1	7.25	20.70
GV44	2.50	3.60	6.2	2.4	0.4	0.3	25.9	1.4	0.9	0.6	0.60	0.3	0.10	0.1	0.2	1.6	0.3	0.4	0.2	1.6	0.7	0.3	0.3	0.2	0.1	2.05	25.90
GV45	0.80	0.40	1.6	2.3	0.8	0.3	1.5	0.4	0.4	0.4	0.50	0.8	<0.1	0.1	0.1	0.2	0.5	0.3	0.1	0.3	0.1	0.1	0.3	<0.1	<0.1	0.56	2.30
GV46	1.30	0.30	2.1	0.8	0.1	0.1	19.3	0.2	1.2	0.1	0.80	0.6	<0.1	0.1	0.7	0.9	0.2	0.7	0.1	0.4	1.2	0.1	3.1	3.9		1.67	19.30
GV47	3.40	1.20	2.1	0.3	0.8	0.4	0.1	2.0	3.8	0.8	2.30	1.2	0.10	0.3	0.6	4.1	0.2	1.6	0.4	1.5	0.2	0.3	4.1	3.5	1.2	1.46	4.10
GV48	1.70	0.80	1.0	3	<0.1	0.2	0.3	0.4	<0.1	<0.1	0.10	0.2	2.90	0.7	1	1.7	0.9	<0.1	0.1	0.8	0.1	0.1	0.5	<0.1	<0.1	0.87	3.00
GV49	14.60	23.10	19.4	17.6	14.7		17.5	24.9	20.0	18.0	13.80	12.2	13.30	19.5	18.4	20.9	16.2	6	0.1	14.7	25.3	0.1	22.6	22.5	<0.1	16.32	25.30
GV50	2.50	1.90	2.2	1.7	0.4	0.3	1.5	0.8	1.1	0.7	1.50	0.9	<0.1	0.2	1	1.5	0.8	0.2	0.1	0.5	1.8	0.1	0.4	0.7	<0.1	0.99	2.50
GV51	0.20	0.30	0.5	0.8	0.1	<0.1	17.5	0.2	0.2	<0.1	0.20	0.1	0.20	0.1	0.2	0.6	0.3	0.1	0.1	0.5	0.3	0.1	0.3	<0.1	<0.1	1.09	17.50
GV52	2.70	2.90	4.0	3.9	0.8	0.2		1.2	2.0	1.5	1.30	3.1	<0.1	0.6	6.6	1.4	0.1	2.9	0.1	1.3	2.6	0.1	1	1.5	<0.1	1.90	6.60
GV53	2.30	0.40	2.3	1.8	0.9	0.5	0.5	1.3	3.9	0.8	1.10	<0.1	0.40	0.1	3.9	3.5	0.5	3.1	0.2	2.3	1.6	0.1	2.3	0.1	<0.1	1.47	3.90

0 - 10%	
10 - 20%	
20 - 30%	
30 - 40%	
40 - 60%	

All results

Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Flow Rate

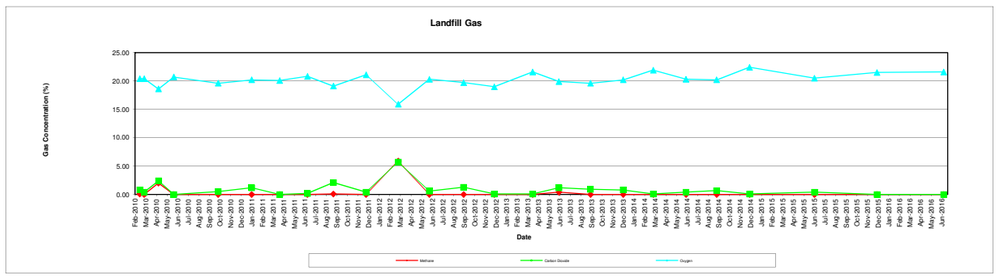
					(Sept mon)	(Dec mon)																						
	24/02/10	**09/03/10**	**19/04/10**	**02/06/10**	**07/10/10**	**11/01/11**	**15/03/11**	**20/06/11**	**02/09/11**	**05/12/11**	**06/03/12**	**04/06/12**	**07/09/12**	**10/12/12**	**27/03/13**	**11/06/13**	**09/09/13**	**11/12/13**	**07/03/14**	**09/06/14**	**05/09/14**	**08/12/14**	**12/06/15**	**09/12/15**	**17/06/16**	**Average**	**Maximum**	**Minimum**
GV1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	<0.1	-0.1	-0.2	<0.1	-0.1	<0.1	0.1	0.1	0.1	0.3	0.3	0.3	0.2	0.4	0.1	<0.1	<0.1	0.12	0.40	-0.20
GV2	+/-0.1	-0.1	+/-0.1	+/-0.1	+/-0.1	0.2	0.0	<0.1	<0.1	-0.1	-0.2	<0.1	<0.1	-0.1	<0.1	-0.1	<0.1	0.2	0.4	<0.1	0.1	0.5	0.3	<0.1	<0.1	0.09	0.50	-0.20
GV3	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	-0.2	-0.1	-0.3	-0.2	-0.2	<0.1	-0.1	<0.1	-0.2	<0.1	0.3	0.4	<0.1	0.2	0.5	0.2	<0.1	<0.1	0.02	0.50	-0.30
GV4	-0.2	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.2	0.0	<0.1	-0.1	-0.2	-0.3	-0.1	<0.1	-0.2	<0.1	0.2	<0.1	0.2	0.7	<0.1	0.2	0.3	0.3	-0.1	-0.1	0.03	0.70	-0.30
GV5	0.4	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1		<0.1	-0.1	-0.2	0.1	-0.4	<0.1	<0.1	0.2	0.1	0.1	<0.1	0.4	0.1	0.2	0.4	0.3	0.2	0.1	0.13	0.40	-0.40
GV6	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.2	0.0	<0.1	-0.1	-0.3	-0.5	-0.3	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.6	<0.1	0.3	0.2	0.3	<0.1	<0.1	0.01	0.60	-0.50
GV7	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.2	-0.5	-0.4	-0.4	-0.1	-0.1	<0.1	-0.1	0.2	0.3	0.5	0.2	0.4	0.2	0.2	<0.1	<0.1	0.01	0.50	-0.50
GV8	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.1	-0.2	-0.3	-0.2	<0.1	<0.1	<0.1	0.3	0.1	0.3	0.7	0.3	0.2	0.3	0.4	-0.8	<0.1	0.07	0.70	-0.80
GV9	1.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.1	<0.1	-0.1	-0.3	<0.1	-0.4	<0.1	<0.1	0.2	0.1	0.1	0.1	0.3	<0.1	0.1	0.4	0.2	<0.1	<0.1	0.13	1.10	-0.40
GV10	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	<0.1	-0.3	-0.3	<0.1	-0.1	-0.1	<0.1	-0.1	<0.1	0.6	0.8	0.2	0.2	0.3	0.3	<0.1	<0.1	0.13	0.80	-0.30
GV11	0.3	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.1	<0.1	-0.2	-0.3	<0.1	-0.4	<0.1	<0.1	<0.1	-0.1	<0.1	0.3	0.5	0.2	0.3	0.1	0.3	<0.1	<0.1	0.06	0.50	-0.40
GV12	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.3	0.1	<0.1	-0.3	-0.4	-0.2	-0.1	-0.1	-0.1	<0.1	0.2	0.2	0.3	0.7	0.1	0.1	<0.1	<0.1	0.2	<0.1	0.03	0.70	-0.40
GV13	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.2	-0.3	-0.4	-0.2	<0.1	-0.2	<0.1	0.2	0.1	0.1	0.9		0.2	0.4	0.2	-0.6	<0.1	0.01	0.90	-0.60
GV14	+/-0.1	+/-0.1	+/-0.1	-0.1	+/-0.1	+/-0.1	-0.1	<0.1	<0.1	-0.2	-0.5	-0.5	<0.1	-0.1	0.2	0.1	<0.1	<0.1		0.2	0.2	0.4	0.2	-0.7	<0.1	-0.07	0.40	-0.70
GV15	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.1	<0.1	-0.1	-0.3	<0.1	-0.2	<0.1	-0.2	0.4	0.1	0.1	<0.1	0.3	<0.1	0.1	0.5	0.2	<0.1	<0.1	0.07	0.50	-0.30
GV16	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.1	<0.1	<0.1	-0.3	-0.4	-0.1	-0.1	<0.1	<0.1	<0.1	0.2	0.3	0.5	0.1	0.2	0.3	0.3	<0.1	0.1	0.08	0.50	-0.40
GV17	0.4	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.2	-0.1	-0.2	-0.1	-0.2	-0.1	-0.1	<0.1	-0.1	<0.1	0.2	<0.1	0.2	0.5	0.2	0.3	-0.2	0.3	<0.1	<0.1	0.05	0.50	-0.20
GV18	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.2	0.0	<0.1	-0.2	-0.3	-0.3	-0.1	<0.1	-0.1	0.1	0.2	0.1	0.4	0.6	0.1	<0.1	0.2	0.4	<0.1	<0.1	0.06	0.60	-0.30
GV19	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.2	-0.1	<0.1	-0.2	-0.2	-0.2	-0.1	-0.1	<0.1	<0.1	0.1	0.1	0.1	0.6	<0.1	0.2	0.5	0.2	<0.1	-0.1	0.07	0.60	-0.20
GV20	0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.2		<0.1	<0.1	-0.2	-1.0	-0.1	<0.1	<0.1	0.2	0.1	0.2	<0.1	0.2	0.2	0.2	0.2	0.2	<0.1	<0.1	0.01	0.20	-1.00
GV21	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.1	<0.1	-0.1	-0.2	<0.1	<0.1	<0.1	<0.1	0.2	0.2	0.2	<0.1	0.3	0.2	0.2	0.3	0.2	0.3	<0.1	0.14	0.30	-0.20
GV22	0.2	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.2	0.0	<0.1	<0.1	-0.2	<0.1	<0.1	<0.1	<0.1	0.2	0.1	0.1	0.2	0.3	<0.1	0.1	0.1	0.2	0.1	-0.1	0.08	0.30	-0.20
GV23	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1		<0.1	<0.1	-0.4	<0.1	-0.1	-0.1	<0.1	<0.1	<0.1	0.2	0.4	0.4	0.1	0.3	0.3	0.3	<0.1	<0.1	0.14	0.40	-0.40
GV24	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.2	-0.2	-0.3	-0.1	<0.1	<0.1	<0.1	0.1	0.1	0.2	0.5	0.1	0.4	0.3	0.3	<0.1	-0.2	0.07	0.50	-0.30
GV25	0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.1	-0.3	-0.1	<0.1	-0.1	<0.1	<0.1	0.2	0.2	0.5	0.6	0.1	0.1	0.2	0.2	<0.1	<0.1	0.11	0.60	-0.30
GV26	0.2	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.2	-0.2	-0.3	-0.2	<0.1	-0.1	<0.1	0.1	<0.1	0.2	0.7	0.1	0.1	0.3	0.1	<0.1	0.1	0.06	0.70	-0.30
GV27	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.1	<0.1	-0.2	-0.1	-0.1	N/A	<0.1	<0.1	<0.1	0.1	0.3	<0.1	0.2		0.2	0.4	0.2	<0.1	-0.4	0.05	0.40	-0.40
GV28	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.3	0.0	<0.1	-0.1	-0.2	-0.4	-0.1	<0.1	-0.1	0.2	0.1	0.2	<0.1	0.3	0.1	0.2	0.6	0.2	0.2	<0.1	0.06	0.60	-0.40
GV29	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.2	0.0	<0.1	<0.1	-0.3	-0.2	-0.4	0.1	-0.3	<0.1	<0.1	0.1	<0.1	0.3	<0.1	<0.1	0.3	0.3	<0.1	<0.1	-0.03	0.30	-0.40
GV30	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.1	0.0	<0.1	<0.1	-0.4	-0.8	<0.1	<0.1	<0.1	-0.2	-0.1	0.1	0.4	0.6	<0.1	0.3	0.4	0.2	<0.1	0.5	0.07	0.60	-0.80
GV31	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.1	-0.3	-0.3	-0.1	<0.1	-0.2	-0.2	0.2	0.1	0.2	0.6	<0.1	0.3	0.1	0.4	<0.1	-0.1	0.04	0.60	-0.30
GV32	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.1	-0.4	-0.1	<0.1	-0.1	-0.2	<0.1	0.2	0.2	0.4	0.6	0.2	0.1	0.5	0.4	0.1	<0.1	0.12	0.60	-0.40
GV33	+/-0.1	+/-0.1	+/-0.1	0.1	+/-0.1	0.2	0.0	<0.1	-0.2	-0.3	-0.3	-0.6	<0.1	<0.1	0.1	0.1	0.1	0.3	0.8	0.1	0.1	0.4	0.2	0.2	<0.1	0.08	0.80	-0.60
GV34	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.1	-0.2	-0.1	-0.1	<0.1	<0.1	0.2	0.1	0.1	0.1	0.3	0.3	0.2	0.4	0.2	<0.1	<0.1	0.10	0.40	-0.20
GV35	-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.2	0.0	<0.1	<0.1	-0.2	-0.3	-0.1	<0.1	-0.2	0.2	0.2	<0.1	<0.1	0.2	0.1	0.2	0.6	0.2	<0.1	-0.3	0.02	0.60	-0.30
GV36	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.2	0.0	<0.1	<0.1	-0.2	<0.1	<0.1	<0.1	-0.1	0.3	<0.1	0.1	<0.1	0.3	<0.1	0.1	0.2	0.2	<0.1	-0.2	0.05	0.30	-0.20
GV37	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.1	-0.3	<0.1	<0.1	-0.2	-0.1	0.2	-0.1	0.2	0.2	0.4	0.1	0.3	0.2	0.3	<0.1	<0.1	0.08	0.40	-0.30
GV38	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.1	-0.3	<0.1	-0.1	<0.1	<0.1	<0.1	0.2	0.1	0.4	0.4	0.1	0.2	0.1	0.3	<0.1	-0.1	0.09	0.40	-0.30
GV39	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.1	<0.1	-0.1	-0.3	<0.1	-0.1	-0.1	<0.1	<0.1	0.2	0.2	0.4	0.6	0.2	0.2	0.3	0.3	0.1	<0.1	0.13	0.60	-0.30
GV40	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.2	0.0	<0.1	-0.3	-0.2	-0.3	-0.2	<0.1	-0.1	-0.2	0.2	0.2	0.3	0.5	0.2	0.1	0.4	0.2	0.3	<0.1	0.05	0.50	-0.30
GV41	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.2	0.0	<0.1	-0.1	-0.2	-0.4	-0.5	<0.1	<0.1	0.1	<0.1	0.1	0.1	0.3	0.1		0.5	0.2	<0.1	0.2	0.01	0.50	-0.50
GV42	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-1.9	-0.1	<0.1	<0.1	-0.2	<0.1	-0.5	<0.1	<0.1	0.2	0.1	0.1	<0.1	0.3	0.2	0.2	0.6	0.1	<0.1	<0.1	-0.08	0.60	-1.90
GV43	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	<0.1	-0.2	-0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.1	<0.1	0.2	<0.1	<0.1	0.2	0.3	<0.1	<0.1	0.09	0.30	-0.20
GV44	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.2	-0.3	-0.3	-0.2	<0.1	-0.1	0.3	<0.1	0.1	0.3	0.5	0.1	0.3	0.3	0.2	<0.1	<0.1	0.07	0.50	-0.30
GV45	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	<0.1	-0.3	<0.1	-0.4	<0.1	<0.1	<0.1	0.2	0.1	0.4	0.5	0.1	0.3	0.2	0.3	0.2	<0.1	0.13	0.50	-0.40
GV46	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.1	<0.1	-0.1	-0.2	-0.1	-0.2	-0.3	-0.3	<0.1	0.2	0.1	0.5	0.5	0.1	0.2	0.4	0.1	-0.4		0.03	0.50	-0.40
GV47	-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.2	-0.5	-0.8	-0.1	N/A	-0.5	0.1	0.1	<0.1	0.4	0.8	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	-0.06	0.80	-0.80
GV48	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.2	0.1	<0.1	<0.1	-0.2	-0.6	<0.1	<0.1	-0.1	0.1	<0.1	0.1	-0.4	0.5	0.1	0.3	0.4	0.2	<0.1	<0.1	0.02	0.50	-0.60
GV49	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1		0.0	<0.1	<0.1	-0.1	<0.1	-0.4	<0.1	0.1	<0.1	-0.1	-0.1	<0.1	0.3	0.1	0.2	0.6	0.2	<0.1	<0.1	0.07	0.60	-0.40
GV50	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.1	-0.1	-0.3	-0.2	<0.1	0.1	0.2	<0.1	0.1	<0.1	0.3	<0.1	0.1	0.2	0.1	<0.1	<0.1	0.03	0.30	-0.30
GV51	+/-0.1	+/-0.1	-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.1	-0.3	-0.2	-0.2	-0.1	0.2	0.2	0.1	0.1	0.2	0.5	-0.2	0.3	0.2	0.4	0.2	<0.1	0.07	0.50	-0.30
GV52	-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.2		-0.2	-0.2	-0.4	-0.4	<0.1	-0.1	<0.1	-0.1	0.3	0.1	<0.1	0.5	0.1	0.4	0.2	0.2	0.1	0.2	0.02	0.50	-0.40
GV53	0.3	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.3	-0.2	-0.7	-0.4	<0.1	0.3	<0.1	0.3	0.2	0.4	0.5	0.2	0.1	0.5	0.2	<0.1	-0.2	0.08	0.50	-0.70

All results

Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

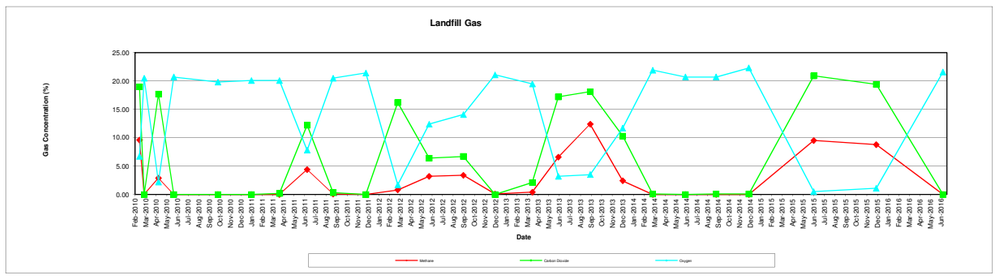
Sampling Location	**GV1**

Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	07/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	15:50	11:55	14:08	08:26	10:14			12:03	10:52:00	14:17	12:24	13:14	12:45	10:14	12:36	10:48	13:24	13:44	11:22	14:38	14:38	14:12	13:29	13:44	11:14
Methane	% vol	0.10	<0.10	2.0	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	5.90	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.80	0.40	2.4	<0.1	0.5	1.2	<0.1	0.2	2.10	0.40	5.70	0.60	1.30	0.10	0.1	1.2	0.9	0.8	0.1	0.4	0.7	0.1	0.4	<0.1	<0.1
Oxygen	% vol	20.40	20.40	18.6	20.7	19.6	20.2	20.1	20.8	19.10	21.10	15.90	20.30	19.70	19.00	21.6	19.9	19.6	20.2	21.9	20.3	20.2	22.4	20.5	21.5	21.6
Atmospheric Pressure	mbars	1000	1028	1011	1011	1014	999	986	1007	999	993	1015	1012	997.00	991	1016	1012	1011	1014	1001	1013	1011	1008	1008	1006	1003
Gas Pressure	mbars	0.00	-0.01	+/-0.01	+/-0.01	+/-0.01	0.1	-0.02	0.00	-0.24	<0.1	0.04	-0.08	0.15	0.39	0.24	-0.12	0.05	-0.22	-0.26	0.15	-0.14	-0.5	-0.02	-0.11	-0.16
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	<0.1	-0.10	-0.2	<0.1	-0.1	<0.1	0.1	0.1	0.1	0.3	0.3	0.3	0.2	0.4	0.1	<0.1	<0.1



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

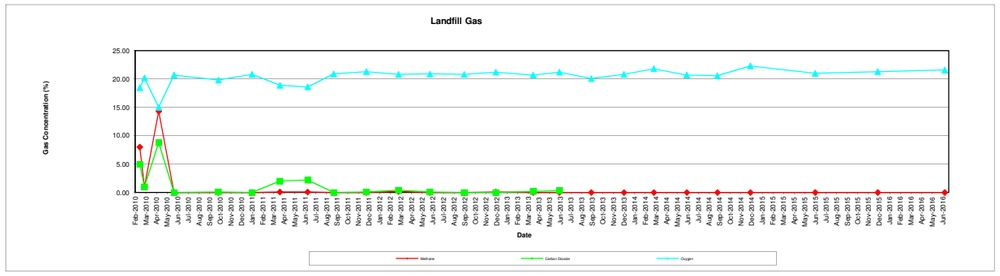
Sampling Location	**GV2**																									
Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	15:50	12:00	14:12	08:30	10:16			11:58	10:49:00	14:14	12:20	13:08	12:40	11:49	12:47	12:56	13:27	13:46	12:36	14:40	14:34	14:09	12:05	13:47	11:10
Methane	% vol	9.60	<0.10	2.9	<0.1	<0.1	<0.1	<0.1	4.4	0.10	<0.1	0.80	3.20	3.40	0.10	0.4	6.6	12.4	2.4	<0.1	<0.1	<0.1	<0.1	9.5	8.8	<0.1
Carbon Dioxide	% vol	19.00	<0.10	17.7	<0.1	<0.1	<0.1	0.2	12.2	0.30	<0.1	16.20	6.40	6.70	<0.1	2.1	17.2	18.1	10.3	0.1	<0.1	0.1	0.1	20.9	19.4	<0.1
Oxygen	% vol	6.70	20.50	2.2	20.7	19.8	20.1	20.1	7.8	20.50	21.40	1.70	12.40	14.10	21.10	19.5	3.2	3.5	11.7	21.9	20.7	20.7	22.3	0.5	1.1	21.6
Atmospheric Pressure	mbars	1000	1028	1011	1011	1014	999	986	1007	998	992	1015	1011	996.00	1023	1018	1013	1011	1014	1004	1013	1011	1008	1009	1006	1003
Gas Pressure	mbars	0.48	0.04	-0.02	0.05	-0.02	-0.27	-0.03	0.00	-0.31	<0.1	0.11	-0.10	0.14	-0.12	0.11	-0.14	-0.02	-0.12	-0.14	<0.01	-0.15	-0.33	0.03	-0.11	-0.17
Gas Flow Rate	l/hr	+/-0.1	-0.1	+/-0.1	+/-0.1	+/-0.1	0.2	0.0	<0.1	<0.1	-0.1	-0.2	<0.1	<0.1	-0.1	<0.1	-0.1	<0.1	0.2	0.4	<0.1	0.1	0.5	0.3	<0.1	<0.1



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV3**

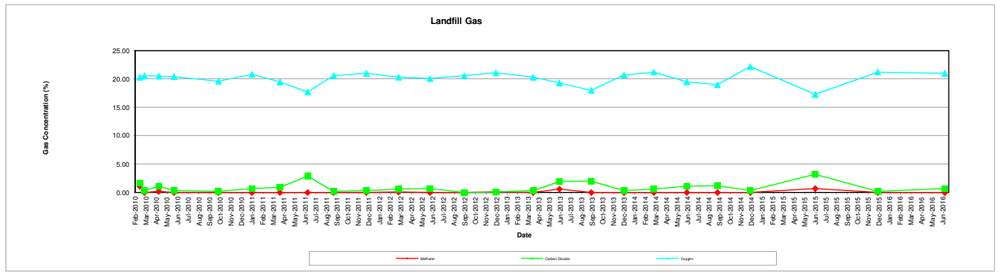
Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	15:40	12:05	14:15	08:32	10:18			10:44	09:50:00	13:15	11:01	11:20	11:31	11:52	12:43	12:59	13:31	13:49	12:39	14:42	14:31	14:06	11:16	13:50	11:07
Methane	% vol	8.00	1.00	14.3	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	0.20	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	5.00	1.00	8.8	<0.1	0.1	<0.1	2.0	2.2	<0.1	0.10	0.40	0.10	<0.1	<0.1	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	<0.1	0.1	<0.1
Oxygen	% vol	18.50	20.20	15.0	20.7	19.8	20.8	18.9	18.6	20.90	21.30	20.80	20.90	20.80	21.20	20.7	21.2	20.1	20.8	21.8	20.7	20.6	22.3	21	21.3	21.6
Atmospheric Pressure	mbars	990	1028	1011	1011	1014	999	986	1007	1000	992	1017	1012	997.00	1023	1017	1013	1011	1014	1004	1013	1011	1008	1010	1007	1003
Gas Pressure	mbars	0.20	+/-0.01	0.15	0.01	+/-0.01	-0.13	-0.01	0.00	-0.01	<0.1	-0.07	-0.12	0.19	-0.14	0.13	-0.05	<0.02	-0.22	-0.03	<0.01	-0.19	-0.15	0.07	-0.12	-0.15
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	-0.2	-0.1	-0.3	-0.2	-0.2	<0.1	-0.1	<0.1	-0.2	<0.1	0.3	0.4	<0.1	0.2	0.5	0.2	<0.1	<0.1



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV4**

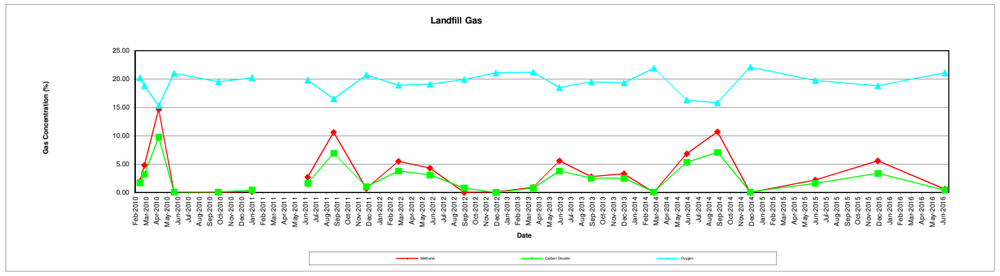
Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	15:40	12:05	14:18	08:35	10:20			10:4	08:50:00	12:28	10:58	09:58	10:10	12:11	11:35	14:39	13:35	13:52	14:17	14:45	14:28	14:04	10:18	13:53	11:04
Methane	% vol	1.10	<0.10	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	0.10	<0.1	0.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.7	<0.1	<0.1
Carbon Dioxide	% vol	1.70	0.30	1.1	0.3	0.2	0.7	0.9	2.9	0.20	0.30	0.60	0.70	<0.1	0.10	0.3	1.9	2	0.3	0.6	1.1	1.2	0.3	3.2	0.2	0.7
Oxygen	% vol	20.30	20.60	20.5	20.4	19.6	20.8	19.5	17.7	20.60	21.00	20.30	20.10	20.60	21.10	20.3	19.3	18	20.7	21.2	19.5	19	22.2	17.3	21.2	21
Atmospheric Pressure	mbars	990	1028	1011	1011	1014	999	986	1007	1000	994	1017	1013	997.00	1024	1018	1013	1011	1014	1005	1013	1011	1008	1008	1007	1002
Gas Pressure	mbars	-0.01	0.02	+/-0.01	+/-0.01	0.03	-0.10	-0.01	0.00	-0.05	0.12	<0.01	-0.09	0.24	-0.18	0.19	0.15	0.14	-0.17	0.1	0.05	-0.12	-0.19	<0.01	-0.16	-0.16
Gas Flow Rate	l/hr	-0.2	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.2	0.0	<0.1	-0.1	-0.2	-0.3	-0.1	<0.1	-0.2	<0.1	0.2	<0.1	0.2	0.7	<0.1	0.2	0.3	0.3	-0.1	-0.1



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV5**

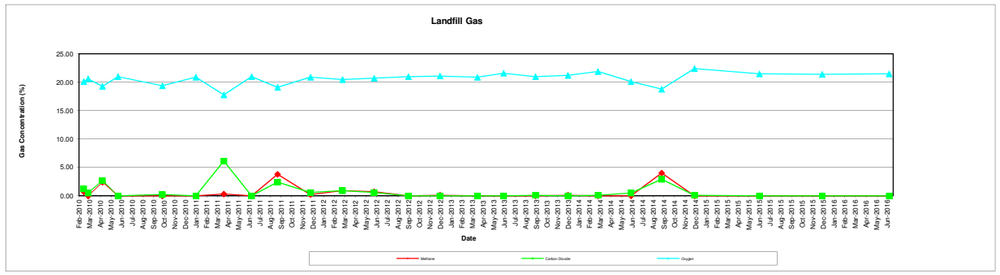
Determinand	**Units**					(Sep Mon)	(Dec Mon)																		
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	15:45	12:20	14:49	08:51	10:29		Seized	12:07	10:55:00	14:20	12:27	13:17	12:48	11:40	12:32	10:51	12:42	11:08	11:19	12:18	11:31	11:15	13:32	14:06	10:54
Methane	% vol	1.90	4.80	14.7	0.1	<0.1	0.2		2.7	10.60	0.70	5.50	4.30	<0.1	0.10	0.9	5.6	2.8	3.3	<0.1	6.8	10.7	<0.1	2.2	5.6	0.6
Carbon Dioxide	% vol	1.70	3.20	9.7	0.1	0.1	0.4		1.6	6.90	1.00	3.80	3.10	0.80	<0.1	0.8	3.8	2.5	2.5	0.1	5.3	7.1	0.1	1.6	3.4	0.4
Oxygen	% vol	20.20	18.80	15.3	21	19.5	20.2		19.8	16.50	20.70	18.90	19.10	19.90	21.10	21.2	18.5	19.5	19.3	21.9	16.3	15.8	22.1	19.7	18.8	21.1
Atmospheric Pressure	mbars	1000	1028	1011	1011	1014	999		1007	999	992	1015	1011	997.00	1022	1015	1012	1011	1016	1000	1012	1010	1002	1007	1005	1001
Gas Pressure	mbars	0.08	0.01	0.14	+/-0.01	-0.02	0.06		0.00	-0.29	<0.1	-0.09	-0.29	0.15	-0.11	-0.09	-0.19	-0.26	-0.03	-0.05	0.03	0.09	-0.14	-0.02	-0.16	-0.11
Gas Flow Rate	l/hr	0.4	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1		<0.1	-0.1	-0.2	0.1	-0.4	<0.1	<0.1	0.2	0.1	0.1	<0.1	0.4	0.1	0.2	0.4	0.3	0.2	0.1
																	Blades broken	Blades broken								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV6**

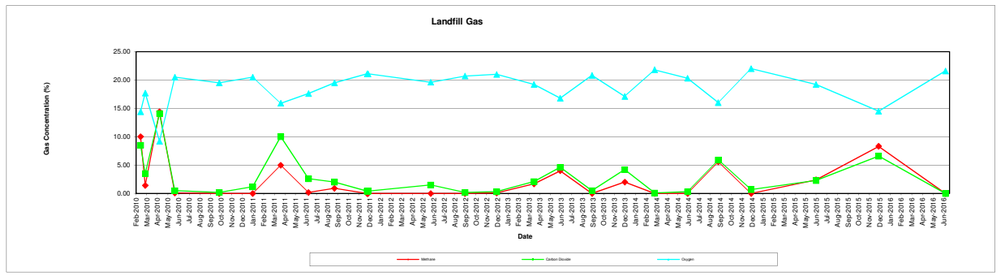
Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	15:50	12:20	14:45	08:48	10:27			11:55	10:46:00	14:11	12:17	13:04	12:36	11:45	12:50	12:52	12:39	11:11	12:33	13:42	11:33	12:04	12:02	14:03	10:57
Methane	% vol	0.70	<0.10	2.4	<0.1	<0.1	<0.1	0.3	<0.1	3.80	0.20	0.90	0.70	<0.1	0.10	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	4	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	1.20	0.50	2.7	<0.1	0.2	<0.1	6.1	<0.1	2.40	0.60	0.90	0.60	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.5	2.9	0.1	<0.1	<0.1	<0.1
Oxygen	% vol	20.10	20.60	19.3	21	19.4	20.9	17.8	21.0	19.10	20.90	20.50	20.70	21.00	21.10	20.9	21.6	21	21.2	21.9	20.1	18.8	22.4	21.5	21.4	21.5
Atmospheric Pressure	mbars	1000	1028	1011	1011	1014	999	986	1007	998	992	1014	1011	996.00	1022	1018	1013	1011	1016	1002	1012	1010	1003	1008	1005	1001
Gas Pressure	mbars	0.04	0.06	-0.11	-0.02	0.02	-0.20	-0.01	0.00	-0.26	<0.1	0.14	-0.15	0.16	-0.15	0.13	-0.05	-0.22	-0.11	-0.03	0.09	0.1	-0.1	<0.01	-0.51	-0.2
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.2	0.0	<0.1	-0.1	-0.3	-0.5	-0.3	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.6	<0.1	0.3	0.2	0.3	<0.1	<0.1



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV7**

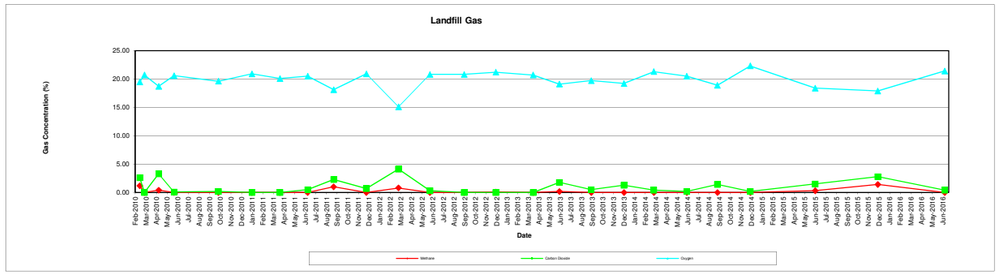
Determinand	**Units**					(Sep Mon)	(Dec Mon)																				
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/12/11	07/12/11	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	15:35	12:15	14:33	08:46	10:26			10:49	09:53:00	13:18	14:18	15:18	11:24	11:35	11:56	12:41	13:03	12:36	12:06	12:42	13:46	12:26	12:07	11:18	14:00	11:00
Methane	% vol	10.00	1.40	14.4	0.1	<0.1	<0.1	5.0	0.2	0.90	<0.1	<0.2	<0.3	<0.1	<0.1	0.10	1.7	4	<0.1	2	<0.1	<0.1	5.6	<0.1	2.4	8.3	<0.1
Carbon Dioxide	% vol	8.50	3.50	14.1	0.5	0.2	1.2	10.0	2.6	2.00	0.40	0.40	0.40	1.50	0.20	0.30	2.1	4.6	0.5	4.2	0.1	0.3	5.9	0.7	2.3	6.6	<0.1
Oxygen	% vol	14.40	17.70	9.2	20.5	19.5	20.5	15.9	17.6	19.50	21.10	21.10	21.10	19.60	20.70	21.00	19.2	16.8	20.8	17.1	21.8	20.3	16	22	19.2	14.5	21.6
Atmospheric Pressure	mbars	990	1028	1011	1011	1014	999	986	1007	1000	993	993	993	1012	997.00	1023	1017	1012	1012	1014	1003	1013	1010	1004	1009	1006	1002
Gas Pressure	mbars	0.01	0.04	+/-0.01	-0.03	0.06	-0.11	-0.06	0.00	0.05	<0.1	<0.2	<0.3	-0.13	0.18	-0.12	0.14	-0.03	-0.14	-0.14	0.1	0.03	-0.05	-0.15	0.07	-0.32	-0.17
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.2	-0.5	0.5	1.5	-0.4	-0.1	-0.1	<0.1	-0.1	0.2	0.3	0.5	0.2	0.4	0.2	0.2	<0.1	<0.1
																		Blades broken	Blades broken.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	GV8

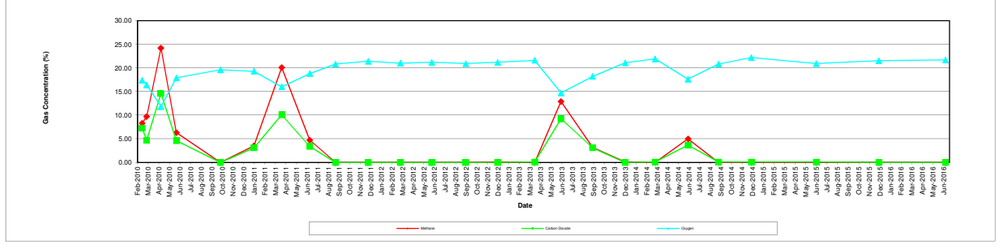
Determinand	Units					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	15:50	12:10	14:24	08:38	10:22			10:3	09:00:00	12:31	10:50	10:12	10:21	12:07	11:31	14:43	13:39	13:58	14:20	14:48	14:25	14:01	11:10	14:10	10:23
Methane	% vol	1.20	<0.10	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	1.00	<0.1	0.80	<0.1	<0.1	0.10	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	1.4	<0.1
Carbon Dioxide	% vol	2.60	<0.10	3.3	0.1	0.2	<0.1	<0.1	0.5	2.30	0.70	4.10	0.30	<0.1	<0.1	<0.1	1.8	0.5	1.3	0.4	0.2	1.4	0.2	1.5	2.8	0.4
Oxygen	% vol	19.50	20.70	18.7	20.6	19.6	20.9	20.1	20.5	18.10	20.90	15.10	20.80	20.80	21.20	20.7	19.1	19.7	19.2	21.3	20.5	18.9	22.3	18.4	17.9	21.4
Atmospheric Pressure	mbars	990	1028	1011	1011	1014	999	986	1007	1000	993	1017	1012	996.00	1023	1018	1012	1011	1014	1006	1013	1011	1007	1009	1004	1002
Gas Pressure	mbars	0.02	+/-0.01	0.08	0.05	0.08	-0.05	-0.01	0.00	-0.06	<0.1	-0.10	-0.09	0.23	-0.04	0.26	-0.07	0.27	-0.12	0.05	0.05	-0.05	-0.15	<0.01	-0.64	-0.04
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.1	-0.2	-0.3	-0.2	<0.1	<0.1	<0.1	0.3	0.1	0.3	0.7	0.3	0.2	0.3	0.4	-0.8	<0.1
																	Blades broken	Blades broken.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV9**

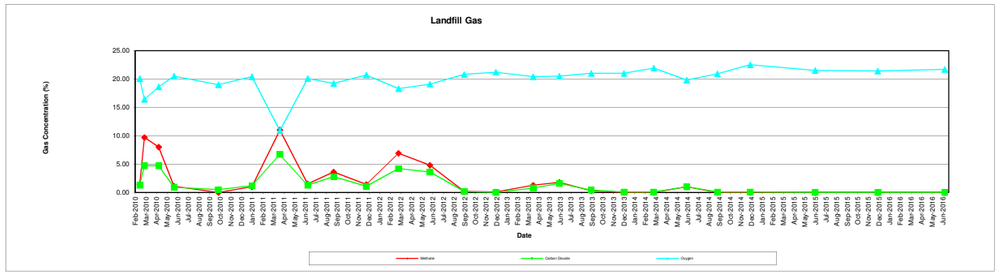
Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	15:45	12:25	14:53	08:55	10:31			12:11	10:59:00	14:24	13:39	13:21	12:51	12:39	12:30	10:56	10:38	11:05	11:16	12:21	11:27	11:17	13:34	13:36	11:25
Methane	% vol	8.30	9.70	24.2	6.3	<0.1	3.5	20.1	4.7	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	12.9	3.2	0.1	<0.1	5	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	7.30	4.70	14.6	4.6	<0.1	3.1	10.1	3.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	9.2	3.1	<0.1	0.1	3.7	0.1	0.1	0.1	<0.1	<0.1
Oxygen	% vol	17.40	16.40	11.8	17.9	19.6	19.3	16.0	18.8	20.80	21.40	21.00	21.20	20.90	21.20	21.6	14.7	18.2	21.1	21.9	17.6	20.8	22.2	20.9	21.5	21.7
Atmospheric Pressure	mbars	1000	1028	1011	1011	1014	999	986	1007	998	991	1014	1010	996.00	1022	1015	1011	1010	1016	1000	1012	1010	1002	1007	1006	1001
Gas Pressure	mbars	-0.03	0.04	0.01	0.01	-0.04	0.12	-0.09	0.00	-0.33	<0.1	0.24	-0.26	0.14	-0.22	-0.05	-0.07	-0.34	<0.01	-0.19	0.05	0.02	-0.21	-0.07	-0.1	-0.17
Gas Flow Rate	l/hr	1.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.1	<0.1	-0.1	-0.3	<0.1	-0.4	<0.1	<0.1	0.2	0.1	0.1	0.1	0.3	<0.1	0.1	0.4	0.2	<0.1	<0.1
										Blades broken							Blades broken	Blades broken.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV10**

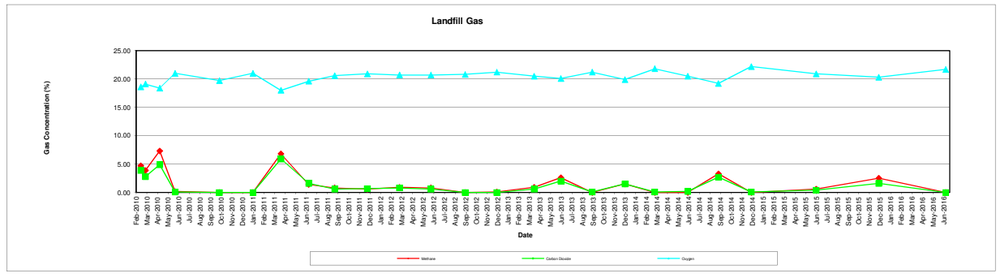
Determinand	**Units**					(Sep Mon)	(Dec Mon)																		
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	15:40	12:25	14:57	08:57	10:33			11:5	10:42:00	14:07	12:14	12:59	12:33	12:34	12:53	12:48	11:39	11:23	12:31	13:39	11:37	12:01	11:59	13:32	11:28
Methane	% vol	1.40	9.70	8.0	1.1	<0.1	1.0	11.0	1.5	3.60	1.40	6.90	4.80	0.20	0.10	1.3	1.8	0.3	<0.1	<0.1	1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	1.30	4.70	4.7	0.9	0.5	1.2	6.7	1.3	2.80	1.10	4.20	3.60	0.20	<0.1	0.8	1.6	0.4	0.1	0.1	1	0.1	0.1	<0.1	<0.1	<0.1
Oxygen	% vol	20.10	16.40	18.6	20.5	19.0	20.4	10.9	20.1	19.20	20.70	18.30	19.10	20.80	21.20	20.4	20.5	21	21	21.9	19.8	20.9	22.5	21.5	21.4	21.7
Atmospheric Pressure	mbars	1000	1028	1011	1011	1014	999	986	1007	998	991	1014	1011	996.00	1022	1017	1012	1011	1014	1002	1012	1010	1003	1008	1006	1002
Gas Pressure	mbars	-0.06	0.04	0.04	-0.01	0.12	-0.10	-0.01	0.00	-0.27	<0.1	0.10	-0.22	0.15	-0.16	0.1	0.02	-0.27	0.44	<0.01	0.12	0.1	0.07	<0.01	-0.07	-0.19
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	<0.1	-0.3	-0.3	<0.1	-0.1	-0.1	<0.1	-0.1	<0.1	0.6	0.8	0.2	0.2	0.3	0.3	<0.1	<0.1
																	Gas tap stuck open	Gas tap stuck open.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV11**

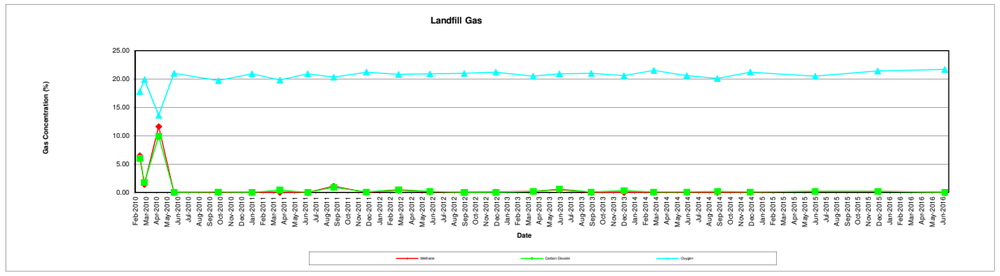
Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	11/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	15:40	12:30	15:05	09:00	10:35			10:53	09:57:00	13:22	11:10	11:30	11:40	12:29	12:37	13:07	11:42	12:03	12:47	13:51	12:22	12:10	11:22	13:29	11:31
Methane	% vol	4.70	3.90	7.3	0.2	<0.1	<0.1	6.8	1.4	0.80	0.60	0.90	0.80	<0.1	0.10	0.9	2.6	<0.1	1.5	<0.1	<0.1	3.3	<0.1	0.6	2.5	<0.1
Carbon Dioxide	% vol	3.90	2.80	4.9	0.1	<0.1	<0.1	5.9	1.6	0.60	0.70	0.80	0.60	<0.1	<0.1	0.6	2	0.1	1.5	0.1	0.2	2.7	0.1	0.4	1.6	<0.1
Oxygen	% vol	18.60	19.10	18.4	21	19.7	21.0	18.0	19.6	20.60	20.90	20.70	20.70	20.80	21.20	20.5	20.1	21.2	19.9	21.8	20.5	19.2	22.2	20.9	20.3	21.7
Atmospheric Pressure	mbars	1000	1028	1011	1011	1014	999	986	1007	999	992	1016	1011	996.00	1023	1017	1012	1011	1014	1003	1012	1010	1003	1009	1006	1002
Gas Pressure	mbars	1.45	+/-0.01	0.04	-0.01	0.1	-0.06	-0.1	0.00	-0.02	<0.1	0.11	-0.47	0.19	-0.19	0.18	-0.05	-0.33	-0.12	-0.15	0.14	0.05	0.02	0.02	-0.1	-0.2
Gas Flow Rate	l/hr	0.3	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.1	<0.1	-0.2	-0.3	<0.1	-0.4	<0.1	-0.1	<0.1	-0.1	<0.1	0.3	0.5	0.2	0.3	0.1	0.3	<0.1	<0.1
										Blades broken																



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

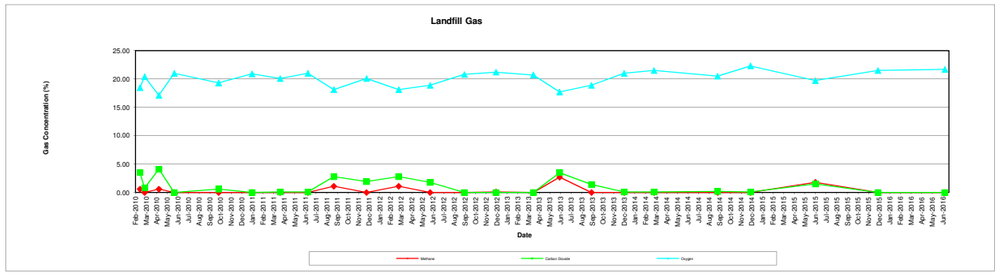
Sampling Location	**GV12**

Determinand	**Units**					(Sep Mon)	(Dec Mon)																		
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	15:55	12:35	15:11	09:02	10:37			9:59	09:45:00	13:09	10:42	11:13	11:10	12:24	11:41	14:33	12:29	13:35	14:11	14:31	13:42	13:25	10:27	14:13	10:19
Methane	% vol	6.50	1.40	11.6	<0.1	<0.1	<0.1	<0.1	<0.1	1.10	<0.1	0.40	0.10	<0.1	0.10	0.2	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	<0.1
Carbon Dioxide	% vol	6.00	1.80	9.9	<0.1	0.1	<0.1	0.4	<0.1	0.90	0.10	0.50	0.20	<0.1	<0.1	0.2	0.6	0.1	0.3	0.1	0.1	0.2	0.1	0.2	0.2	<0.1
Oxygen	% vol	17.80	19.90	13.6	21	19.7	20.9	19.8	20.9	20.30	21.20	20.80	20.90	21.00	21.20	20.5	20.9	21	20.6	21.5	20.6	20.1	21.2	20.5	21.4	21.7
Atmospheric Pressure	mbars	990	1028	1011	1011	1014	999	986	1007	999	992	1016	1011	996.00	1023	1018	1012	1012	1013	1000	1012	1010	1005	1008	1005	1002
Gas Pressure	mbars	0.07	0.01	0.01	-0.01	-0.03	-0.15	-0.10	0.00	-0.09	<0.1	0.02	-0.08	0.15	-0.18	0.25	0.12	-0.17	-0.14	-0.12	0.07	0.14	-0.03	0.02	-0.07	-0.17
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.3	0.1	<0.1	-0.3	-0.4	-0.2	-0.1	-0.1	-0.1	<0.1	0.2	0.2	0.3	0.7	0.1	0.1	<0.1	<0.1	0.2	<0.1
										Blades broken							Blades broken	Blades broken.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

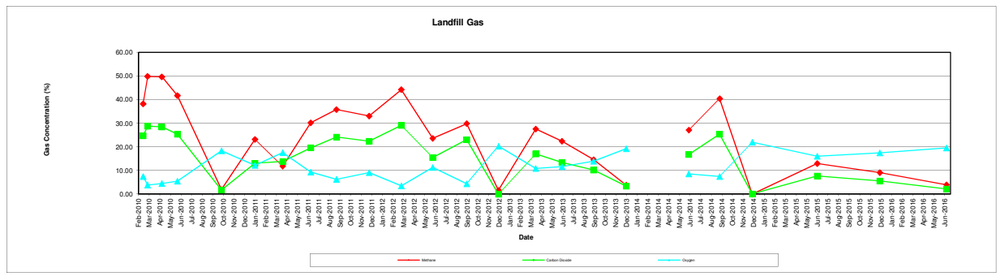
Sampling Location	**GV13**																								
Determinand	**Units**					(Sep Mon)	(Dec Mon)																		
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	15:50	12:35	15:13	09:04	10:38			10:04	09:04:00	12:34	10:46	10:17	10:25	12:20	11:28	14:47	13:43	14:01	14:23	14:22	13:59	11:07	14:16	10:17
Methane	% vol	0.60	<0.10	0.6	<0.1	<0.1	<0.1	<0.1	<0.1	1.10	<0.1	1.10	<0.1	<0.1	0.10	<0.1	2.7	<0.1	<0.1	<0.1	<0.1	<0.1	1.8	<0.1	<0.1
Carbon Dioxide	% vol	3.50	0.80	4.1	<0.1	0.6	<0.1	0.1	0.1	2.80	1.90	2.80	1.80	<0.1	<0.1	<0.1	3.5	1.4	0.1	0.1	0.2	0.1	1.5	<0.1	<0.1
Oxygen	% vol	18.50	20.40	17.1	21	19.3	20.9	20.1	21.0	18.10	20.10	18.10	18.90	20.80	21.20	20.7	17.7	18.9	21	21.5	20.5	22.3	19.7	21.5	21.7
Atmospheric Pressure	mbars	990	1028	1011	1011	1014	999	986	1007	999	993	1017	1012	996.00	1023	1019	1012	1011	1013	1005	1011	1007	1009	1004	1003
Gas Pressure	mbars	0.04	0.02	-0.04	+/-0.01	0.05	0.03	-0.02	0.00	-0.09	<0.1	-0.08	-0.11	0.23	-0.22	0.24	0.1	0.17	-0.14	-0.02	-0.07	-0.24	0.05	-0.26	-0.13
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.2	-0.3	-0.4	-0.2	<0.1	-0.2	<0.1	0.2	0.1	0.1	0.9	0.2	0.4	0.2	-0.6	<0.1



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV14**

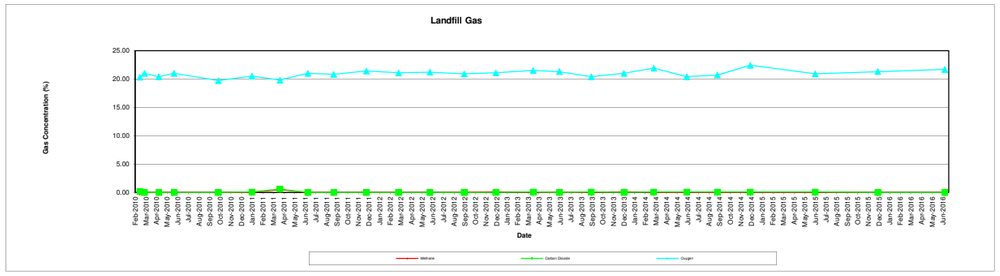
Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	15:05	12:50	15:38	09:19	10:53			12:56	11:40:00	15:07	14:25	14:45	13:59	12:43	11:40	10:20	10:34	10:00		12:14	10:41	11:12	14:15	10:33	10:49
Methane	% vol	38.20	49.80	49.6	41.7	2.0	23.2	11.8	30.2	35.80	33.00	44.20	23.60	29.80	1.60	27.6	22.4	14.6	3.8		27.1	40.4	<0.1	13	9.1	3.9
Carbon Dioxide	% vol	24.70	28.80	28.4	25.4	1.8	13.1	13.8	19.6	24.20	22.40	29.10	15.50	23.10	<0.1	17	13.4	10.2	3.4		16.8	25.4	0.1	7.7	5.6	2.2
Oxygen	% vol	7.50	3.80	4.5	5.5	18.3	12.2	17.6	9.3	6.30	9.10	3.50	11.30	4.40	20.30	10.9	11.6	13.9	19.2		8.6	7.5	22	16	17.5	19.5
Atmospheric Pressure	mbars	1000	1028	1011	1011	1014	999	986	1007	997	991	1011	1010	995.00	1022	1014	1010	1010	1015		1011	1009	1001	1007	1008	1001
Gas Pressure	mbars	0.05	0.03	0.05	+/-0.01	+/-0.01	-0.17	-0.22	0.00	-0.30	<0.1	-0.07	-0.07	0.13	-0.19	0.15	0.07	0.31	-0.03		0.1	0.12	-0.03	-0.03	-0.47	-0.12
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	-0.1	+/-0.1	+/-0.1	-0.1	<0.1	<0.1	-0.2	-0.5	-0.5	<0.1	-0.1	0.2	0.1	<0.1	<0.1		0.2	0.2	0.4	0.2	-0.7	<0.1
																	Blades broken, handle of gas tap broken off	Blades broken, Handle of gas tap broken off.		Accidentally missed.						



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV15**

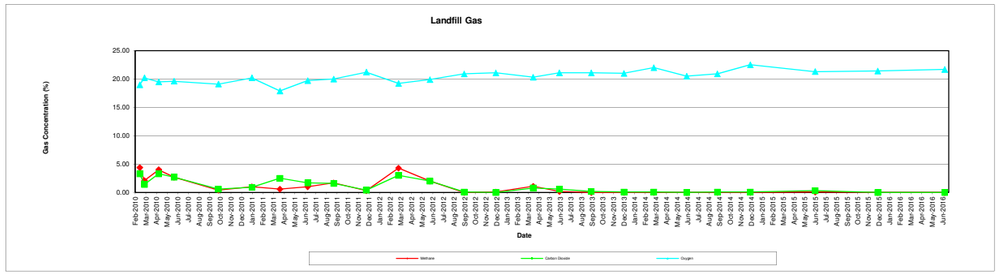
Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	15:10	12:50	15:31	09:17	10:50			12:16	11:01:00	14:28	13:42	13:25	12:55	12:48	12:27	11:00	10:42	11:02	11:12	12:24	11:24	11:21	13:37	13:20	11:41
Methane	% vol	0.10	<0.10	<0.1	<0.1	<0.1	<0.1	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.20	<0.10	<0.1	<0.1	<0.1	0.1	0.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	0.1	0.1	0.1	0.1	0.1	<0.1	<0.1
Oxygen	% vol	20.30	21.00	20.4	21	19.7	20.5	19.8	21.0	20.80	21.40	21.10	21.20	20.90	21.10	21.5	21.3	20.4	21	21.9	20.4	20.7	22.4	20.9	21.3	21.7
Atmospheric Pressure	mbars	1000	1028	1011	1011	1014	999	986	1007	997	991	1013	1010	996.00	1022	1015	1011	1010	1016	999	1011	1010	1002	1007	1006	1002
Gas Pressure	mbars	-0.05	0.01	0.02	-0.05	0.12	-0.11	-0.10	0.00	-0.28	<0.1	0.16	-0.31	0.14	-0.15	-0.21	-0.09	-0.05	-0.07	<0.01	0.02	0.15	-0.09	-0.09	-0.11	-0.14
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.1	<0.1	-0.1	-0.3	<0.1	-0.2	<0.1	-0.2	0.4	0.1	0.1	<0.1	0.3	<0.1	0.1	0.5	0.2	<0.1	<0.1
										Blades broken							Blades broken	Blades broken.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV16**

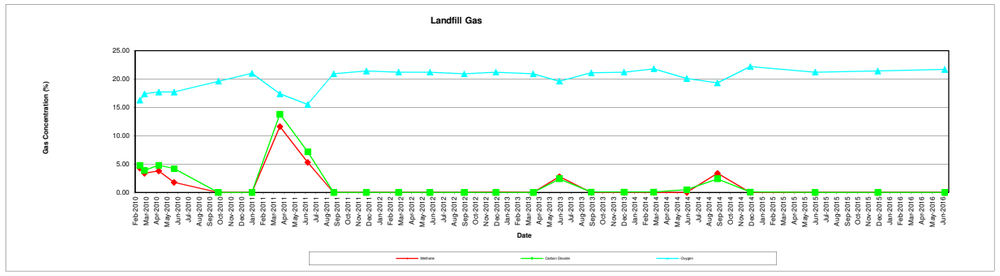
Determinand	**Units**					(Sep Mon)	(Dec Mon)																		
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	15:10	12:45	15:28	09:15	10:47			11:45	10:39:00	14:04	12:07	12:54	12:29	12:52	12:57	12:44	11:35	11:26	12:27	13:36	11:40	11:59	11:57	13:23	11:38
Methane	% vol	4.40	2.10	4.0	2.7	0.4	1.0	0.6	1	1.70	0.30	4.30	2.00	<0.1	0.10	1.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	3.30	1.40	3.3	2.7	0.6	0.9	2.5	1.7	1.60	0.40	3.00	2.00	0.10	<0.1	0.8	0.6	0.2	0.1	0.1	<0.1	0.1	0.1	0.3	<0.1	<0.1
Oxygen	% vol	19.00	20.20	19.5	19.6	19.1	20.2	17.9	19.7	20.00	21.20	19.20	19.90	20.90	21.10	20.3	21.1	21.1	21	22	20.5	20.9	22.5	21.3	21.4	21.7
Atmospheric Pressure	mbars	1000	1028	1011	1011	1014	999	986	1007	998	991	1014	1011	996.00	1023	1017	1011	1011	1014	1001	1012	1010	1003	1008	1006	1002
Gas Pressure	mbars	-0.08	0.01	0.06	+/-0.01	-0.04	-0.11	-0.10	-0.06	-0.26	<0.1	0.09	-0.20	0.14	-0.20	0.12	-0.14	-0.44	-0.05	0.02	0.12	-0.02	-0.05	<0.01	-0.11	-0.16
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.1	<0.1	<0.1	-0.3	-0.4	-0.1	-0.1	<0.1	<0.1	<0.1	0.2	0.3	0.5	0.1	0.2	0.3	0.3	<0.1	0.1
																	Blades broken	Blades broken.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV17**

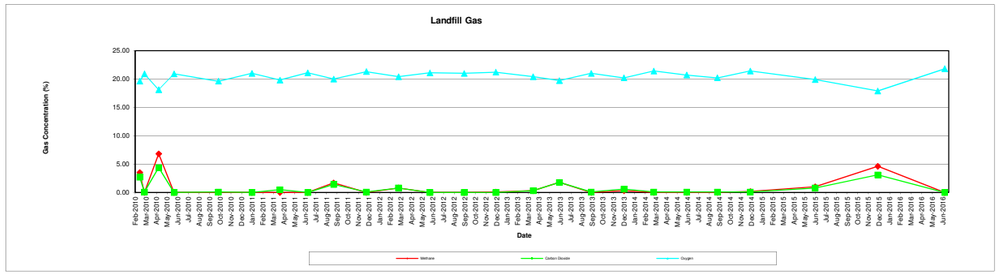
Determinand	**Units**					(Sep Mon)	(Dec Mon)																		
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	15:15	12:45	15:25	09:12	10:45			10:57	10:00:00	13:24	11:13	11:34	11:44	12:56	12:28	13:10	11:45	11:59	12:52	13:54	12:19	12:12	11:24	13:26	11:34
Methane	% vol	4.30	3.40	3.8	1.8	<0.1	<0.1	11.6	5.3	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	2.8	<0.1	<0.1	<0.1	<0.1	3.4	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	4.80	3.90	4.8	4.2	<0.1	<0.1	13.8	7.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	2.4	0.1	0.1	0.1	0.5	2.4	0.1	<0.1	<0.1	<0.1
Oxygen	% vol	16.30	17.40	17.7	17.7	19.6	21.0	17.4	15.5	20.90	21.40	21.20	21.20	20.90	21.20	20.9	19.6	21.1	21.2	21.8	20.1	19.3	22.2	21.2	21.4	21.7
Atmospheric Pressure	mbars	1000	1028	1011	1011	1014	999	986	1007	998	992	1016	1011	996.00	1023	1016	1012	1011	1014	1003	1012	1010	1003	1008	1006	1002
Gas Pressure	mbars	-0.03	+/-0.01	0.05	+/-0.01	+/-0.01	-0.14	-0.17	0.00	0.00	-0.10	0.02	-0.35	0.18	-0.22	0.14	-0.02	-0.07	-0.12	-0.07	0.15	-0.12	-0.07	0.02	-0.13	-0.15
Gas Flow Rate	l/hr	0.4	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.2	-0.1	-0.2	-0.1	-0.2	-0.1	-0.1	<0.1	-0.1	<0.1	0.2	<0.1	0.2	0.5	0.2	0.3	-0.2	0.3	<0.1	<0.1
																	Blades broken	Blades broken.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV18**

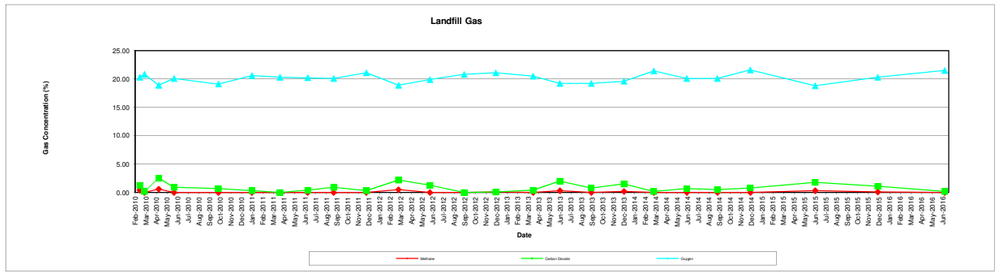
Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	15:20	12:40	15:23	09:10	10:43			9:54	09:42:00	13:06	10:39	11:09	11:07	13:02	11:44	14:29	12:26	13:32	14:08	14:27	13:45	13:28	10:31	14:20	10:10
Methane	% vol	3.50	<0.10	6.8	<0.1	<0.1	<0.1	<0.1	<0.1	1.70	<0.1	0.80	<0.1	<0.1	0.10	0.3	1.8	<0.1	0.3	<0.1	<0.1	<0.1	0.2	1	4.6	<0.1
Carbon Dioxide	% vol	2.70	0.10	4.4	<0.1	0.1	<0.1	0.5	<0.1	1.40	0.10	0.80	<0.1	<0.1	<0.1	0.3	1.8	0.1	0.6	0.1	0.1	0.1	0.1	0.8	3.1	<0.1
Oxygen	% vol	19.60	20.90	18.1	20.9	19.6	21.0	19.8	21.1	20.00	21.30	20.40	21.10	21.00	21.20	20.4	19.7	21	20.2	21.4	20.7	20.2	21.4	19.9	17.9	21.8
Atmospheric Pressure	mbars	1000	1028	1011	1011	1014	999	986	1007	999	992	1016	1011	996.00	1024	1018	1012	1012	1014	1005	1013	1010	1006	1008	1005	1002
Gas Pressure	mbars	0.01	-0.01	0.02	-0.07	0.10	-0.14	-0.06	0.00	0.00	<0.1	-0.09	-0.34	0.17	-0.22	0.19	0.21	-0.29	-0.19	-0.05	0.1	0.07	-0.09	-0.07	-0.24	-0.12
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.2	0.0	<0.1	-0.2	-0.3	-0.3	-0.1	<0.1	-0.1	0.1	0.2	0.1	0.4	0.6	0.1	<0.1	0.2	0.4	<0.1	<0.1
																	Blades broken	Blades broken.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV19**

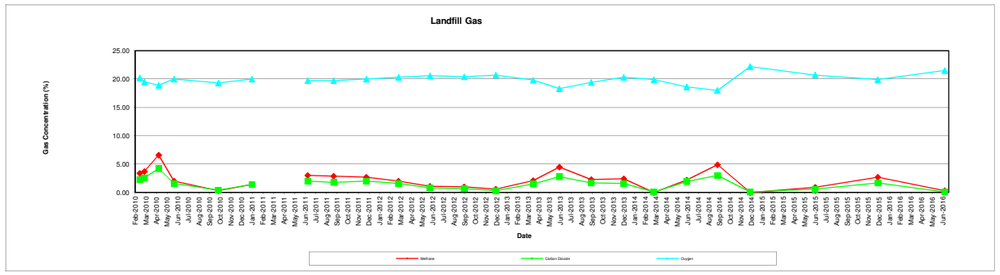
Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	11/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	15:20	12:40	15:18	09:06	10:40			9:15	09:07:00	12:37	10:03	10:22	10:29	13:07	11:25	14:50	13:46	14:04	14:25	14:52	14:18	13:56	11:02	14:23	10:13
Methane	% vol	0.40	<0.10	0.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.50	<0.1	<0.1	0.10	<0.1	0.3	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.3	0.1	<0.1
Carbon Dioxide	% vol	1.30	0.20	2.5	0.9	0.7	0.3	<0.1	0.4	0.90	0.30	2.20	1.30	<0.1	0.10	0.4	2	0.8	1.5	0.2	0.7	0.5	0.8	1.8	1.1	0.2
Oxygen	% vol	20.30	20.80	18.9	20.1	19.1	20.6	20.3	20.2	20.10	21.10	18.90	19.90	20.80	21.10	20.5	19.2	19.2	19.6	21.4	20.1	20.1	21.6	18.8	20.3	21.5
Atmospheric Pressure	mbars	1000	1028	1011	1011	1014	999	986	1007	999	993	1018	1013	996.00	1025	1019	1012	1012	1014	1006	1013	1011	1008	1010	1005	1002
Gas Pressure	mbars	0.00	0.02	-0.06	0.01	0.08	0.13	-0.12	0.03	-0.08	<0.1	<0.01	-0.16	0.20	-0.15	0.29	0.02	0.12	-0.07	0.15	0.05	-0.19	-0.24	0.07	-0.14	-0.17
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.2	-0.1	<0.1	-0.2	-0.2	-0.2	-0.1	-0.1	<0.1	<0.1	0.1	0.1	0.1	0.6	<0.1	0.2	0.5	0.2	<0.1	-0.1



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV20**

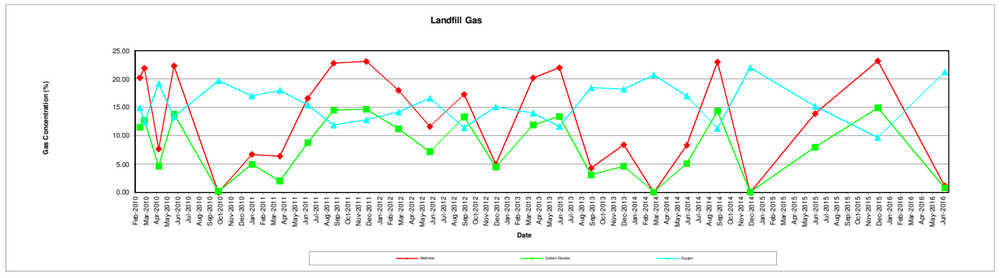
Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	15:05	12:55	15:42	09:24	10:56		Seized	0:00	11:44:00	15:11	14:30	14:41	13:52	14:06	11:37	10:15	09:56	09:57	10:32	11:38	10:07	10:19	14:18	10:22	11:45
Methane	% vol	3.40	3.70	6.6	2	0.3	1.4		3	2.90	2.70	2.00	1.10	1.00	0.60	2.1	4.5	2.3	2.4	<0.1	2.2	4.9	<0.1	0.9	2.7	0.3
Carbon Dioxide	% vol	2.30	2.60	4.2	1.6	0.4	1.4		2.0	1.80	2.00	1.60	0.80	0.70	0.30	1.5	2.8	1.7	1.6	0.1	1.9	3	0.1	0.6	1.7	0.1
Oxygen	% vol	20.20	19.50	18.9	20	19.3	20.0		19.7	19.70	20.00	20.30	20.60	20.40	20.70	19.8	18.3	19.4	20.3	19.9	18.6	18	22.2	20.7	19.9	21.5
Atmospheric Pressure	mbars	990	1028	1011	1011	1014	999		1007	997	991	1011	1010	995.00	1023	1005	1010	1008	1015	997	1010	1009	999	1007	1007	1002
Gas Pressure	mbars	0.01	+/-0.01	-0.1	+/-0.01	0.02	-0.21		0.00	-0.33	<0.1	-0.24	-0.16	0.09	-0.11	-0.15	-0.31	-0.15	-0.12	0.14	-0.24	0.17	-0.02	-0.02	-0.11	-0.15
Gas Flow Rate	l/hr	0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.2		<0.1	<0.1	-0.2	-1.0	-0.1	<0.1	<0.1	0.2	0.1	0.2	<0.1	0.2	0.2	0.2	0.2	0.2	<0.1	<0.1
																	Blades broken, gas tap stuck open	Blades broken, gas tap stuck open.				Wire basket containing fan head has been knocked off leaving gas pole open.				



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV21**

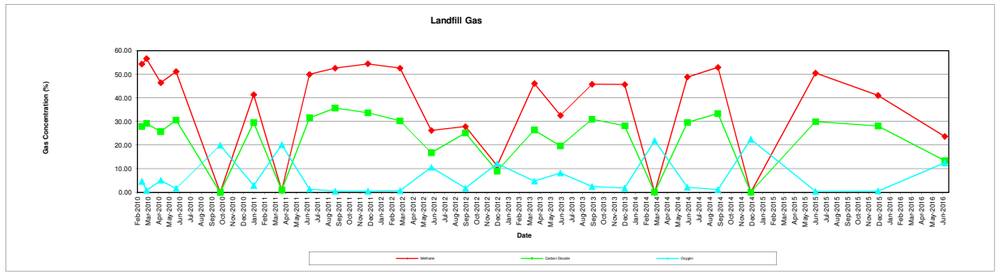
Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	15:05	12:55	15:44	09:26	10:59			12:52	11:37:00	15:04	14:16	14:52	13:56	13:34	11:44	10:25	10:30	10:03	10:40	12:11	10:38	11:07	14:11	10:39	11:48
Methane	% vol	20.20	21.90	7.7	22.3	<0.1	6.7	6.4	16.6	22.80	23.10	18.00	11.60	17.30	5.00	20.2	22	4.3	8.4	<0.1	8.3	23	<0.1	13.9	23.2	1.2
Carbon Dioxide	% vol	11.50	12.70	4.6	13.8	0.2	5.0	2.0	8.8	14.50	14.70	11.20	7.20	13.30	4.50	11.9	13.4	3.1	4.6	0.1	5.1	14.3	0.1	8	14.9	0.8
Oxygen	% vol	14.90	12.40	19.2	13.3	19.7	17.0	18.0	15.4	11.90	12.80	14.20	16.60	11.40	15.10	14	11.6	18.5	18.2	20.7	17	11.3	22	15.2	9.7	21.2
Atmospheric Pressure	mbars	990	1028	1011	1011	1014	999	986	1007	997	991	1011	1010	995.00	1023	1014	1011	1009	1016	998	1011	1009	1001	1007	1007	1001
Gas Pressure	mbars	0.15	0.02	0.15	0.01	-0.05	-1.09	-0.10	0.00	0.00	<0.1	-0.09	-0.22	0.13	-0.21	-0.19	0.09	0.24	-0.06	0.09	-0.02	0.07	-0.03	<0.01	0.01	<0.01
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.1	<0.1	-0.1	-0.2	<0.1	<0.1	<0.1	<0.1	0.2	0.2	0.2	<0.1	0.3	0.2	0.2	0.3	0.2	0.3	<0.1
																	blades broken. Gas tap need replacing	Blades broken, gas tap needs replacing.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV22**

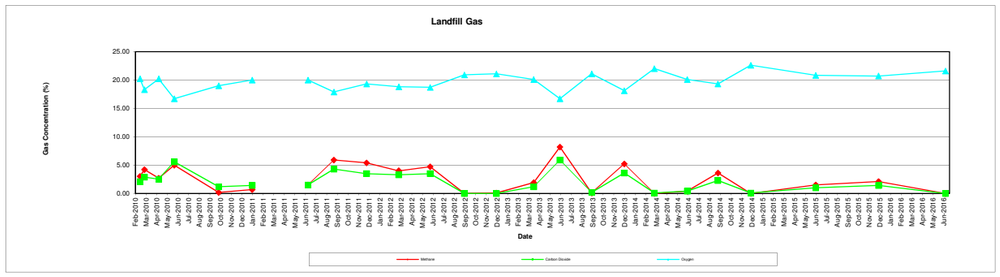
Determinand	**Units**					(Sep Mon)	(Dec Mon)																		
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	15:10	13:00	15:47	09:29	11:01			12:2	11:05:00	14:32	13:45	13:29	12:59	13:29	12:20	11:05	10:46	10:59	11:08	12:28	11:21	11:26	13:40	10:49	11:52
Methane	% vol	54.30	56.60	46.4	51.1	<0.1	41.4	0.9	50	52.60	54.40	52.60	26.20	27.90	11.30	46.1	32.6	45.8	45.7	<0.1	48.8	52.9	<0.1	50.5	41.1	23.7
Carbon Dioxide	% vol	28.00	29.20	25.7	30.6	<0.1	29.5	1.0	31.5	35.70	33.70	30.30	16.80	25.20	9.00	26.4	19.7	31	28.2	0.1	29.6	33.4	0.1	30	28.1	13.5
Oxygen	% vol	4.70	0.90	5.1	1.7	20.0	3.0	20.2	1.4	0.50	0.50	0.80	10.60	1.90	12.20	4.8	8.2	2.5	1.9	21.9	2.2	1.2	22.5	0.4	0.6	12.5
Atmospheric Pressure	mbars	990	1028	1011	1011	1014	999	986	1007	997	991	1013	1010	996.00	1023	1014	1011	1010	1016	999	1011	1010	1002	1007	1007	1002
Gas Pressure	mbars	0.21	0.01	0.14	0.03	0.03	-0.31	-0.06	0.00	-0.31	<0.1	-0.02	-0.19	0.14	-0.13	0.14	-0.02	0.15	-0.03	-0.07	0.03	0.14	-0.14	-0.07	-0.08	<0.01
Gas Flow Rate	l/hr	0.2	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.2	0.0	<0.1	<0.1	-0.2	<0.1	<0.1	<0.1	<0.1	0.2	0.1	0.1	0.2	0.3	<0.1	0.1	0.1	0.2	0.1	-0.1
																	Blades broken	Blades broken.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV23**

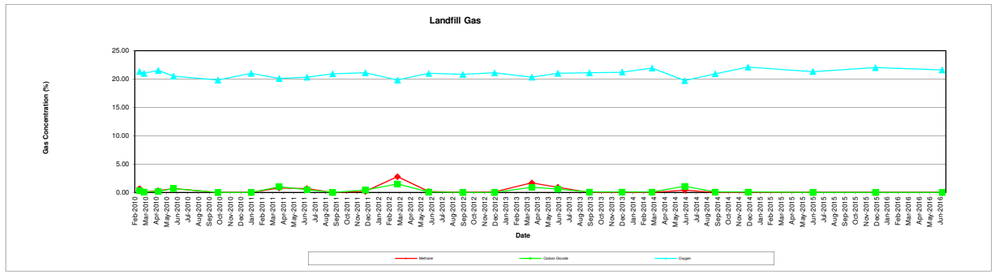
Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	15:10	13:00	15:51	09:32	11:03		Seized	11:41	10:36:00	14:01	12:03	12:49	12:25	13:25	13:00	12:40	11:32	11:29	12:24	13:33	11:43	11:56	11:54	10:53	11:54
Methane	% vol	3.00	4.20	2.7	5	0.2	0.7		1.5	5.90	5.40	4.00	4.70	<0.1	0.10	1.9	8.2	0.1	5.2	<0.1	0.4	3.6	<0.1	1.5	2.1	<0.1
Carbon Dioxide	% vol	2.10	2.90	2.5	5.6	1.2	1.4		1.5	4.30	3.50	3.30	3.50	<0.1	<0.1	1.2	5.9	0.2	3.6	0.1	0.4	2.3	0.1	1	1.4	<0.1
Oxygen	% vol	20.20	18.30	20.2	16.7	19.0	20.0		20.0	17.90	19.30	18.80	18.70	20.90	21.10	20.1	16.7	21.1	18.1	22	20.1	19.3	22.6	20.8	20.7	21.6
Atmospheric Pressure	mbars	990	1028	1011	1011	1014	999		1007	998	991	1014	1010	996.00	1023	1017	1011	1010	1014	1002	1012	1010	1003	1008	1007	1002
Gas Pressure	mbars	0.12	0.01	-0.04	-0.01	0.10	-0.06		0.00	-0.29	<0.1	0.15	-0.31	0.16	-0.17	0.13	-0.12	-0.26	0.09	-0.12	0.15	0.03	0.09	<0.01	-0.07	-0.15
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1		<0.1	<0.1	-0.4	<0.1	-0.1	-0.1	<0.1	<0.1	<0.1	0.2	0.4	0.4	0.1	0.3	0.3	0.3	<0.1	<0.1
																	Blades broken	Blades broken.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV24**

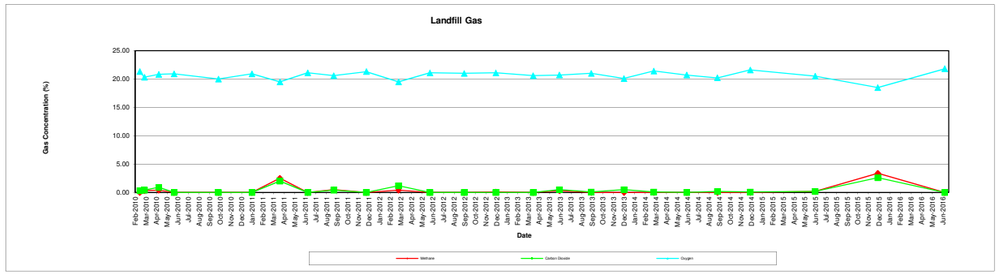
Determinand	**Units**					(Sep Mon)	(Dec Mon)																		
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	15:15	13:05	15:53	09:35	11:05			11:03	10:04:00	13:28	11:20	12:01	11:48	13:22	12:25	13:14	11:49	11:56	12:58	13:58	12:16	12:15	11:27	10:57	11:57
Methane	% vol	0.70	0.10	0.3	0.7	<0.1	<0.1	0.8	0.7	<0.1	0.20	2.80	0.20	<0.1	0.10	1.7	0.9	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.30	0.10	0.2	0.7	<0.1	<0.1	1.0	0.5	<0.1	0.40	1.50	0.10	<0.1	<0.1	0.9	0.6	0.1	0.1	0.1	1.1	0.1	0.1	<0.1	<0.1	<0.1
Oxygen	% vol	21.30	21.00	21.5	20.5	19.8	21.0	20.1	20.3	20.90	21.10	19.80	21.00	20.80	21.10	20.3	21	21.1	21.2	21.9	19.7	20.9	22.1	21.3	22	21.6
Atmospheric Pressure	mbars	990	1028	1011	1011	1014	999	986	1007	998	992	1016	1011	996.00	1023	1017	1011	1011	1013	1003	1012	1010	1003	1008	1007	1002
Gas Pressure	mbars	-0.02	+/-0.01	0.06	+/-0.01	0..03	0.27	-0.06	0.00	-0.23	<0.1	-0.07	-0.18	0.19	-0.12	0.15	-0.12	-0.17	-0.12	-0.17	0.15	<0.01	-0.1	0.05	-0.02	-1.05
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.2	-0.2	-0.3	-0.1	<0.1	<0.1	<0.1	0.1	0.1	0.2	0.5	0.1	0.4	0.3	0.3	<0.1	-0.2
										Blades broken							Blades broken	Blades broken.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV25**

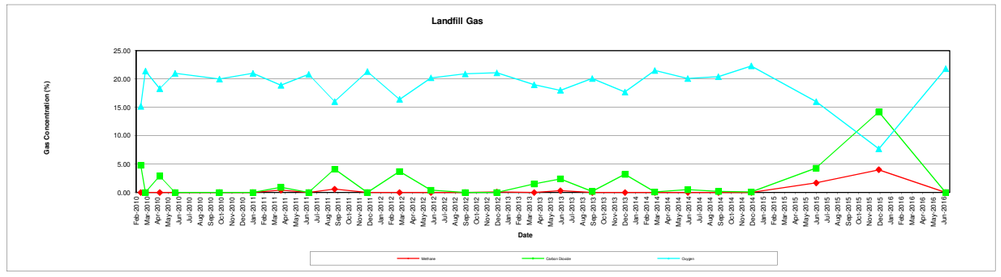
Determinand	**Units**					(Sep Mon)	(Dec Mon)																		
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	15:20	13:05	15:55	09:38	11:08			9:5	09:39:00	13:03	10:35	11:04	11:02	13:16	11:48	14:25	12:22	13:28	14:05	14:24	13:55	13:31	10:33	14:29	10:07
Methane	% vol	<0.10	0.30	0.4	<0.1	<0.1	<0.1	2.5	<0.1	0.50	<0.1	0.40	<0.1	<0.1	0.10	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	3.4	<0.1
Carbon Dioxide	% vol	0.30	0.40	0.9	<0.1	<0.1	<0.1	2.0	<0.1	0.40	<0.1	1.20	<0.1	<0.1	<0.1	0	0.5	0.1	0.5	0.1	<0.1	0.2	0.1	0.2	2.6	<0.1
Oxygen	% vol	21.30	20.30	20.8	20.9	20.0	20.9	19.5	21.1	20.60	21.30	19.50	21.10	21.00	21.10	20.6	20.7	21	20.1	21.4	20.7	20.2	21.6	20.5	18.5	21.8
Atmospheric Pressure	mbars	990	1028	1011	1011	1014	999	986	1007	999	992	1016	1012	996.00	1024	1018	1012	1012	1014	1004	1013	1010	1006	1009	1005	1003
Gas Pressure	mbars	0.10	-0.01	0.05	0.05	+/-0.01	-0.06	-0.1	0.00	0.00	<0.1	<0.01	-0.09	0.16	-0.22	0.21	-0.07	0.26	-0.38	-0.24	0.1	-0.19	-0.1	0.05	-0.28	-0.13
Gas Flow Rate	l/hr	0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.1	-0.3	-0.1	<0.1	-0.1	<0.1	<0.1	0.2	0.2	0.5	0.6	0.1	0.1	0.2	0.2	<0.1	<0.1
																	Blades broken	Blades broken.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV26**

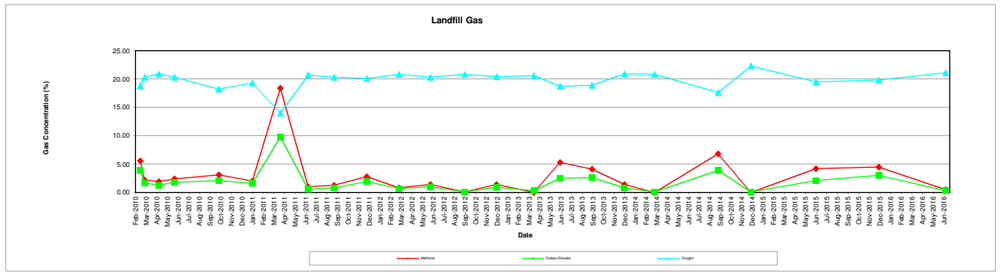
Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	15:20	13:10	15:58	09:40	11:10			9:22	09:11:00	12:40	10:07	10:26	10:33	13:11	11:22	14:53	13:50	14:07	14:28	14:55	14:15	13:53	10:58	14:26	10:03
Methane	% vol	<0.10	<0.10	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	0.60	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.7	4	<0.1
Carbon Dioxide	% vol	4.80	<0.10	2.9	<0.1	<0.1	<0.1	0.9	<0.1	4.10	<0.1	3.70	0.40	<0.1	<0.1	1.5	2.4	0.2	3.2	0.1	0.5	0.2	0.1	4.3	14.2	<0.1
Oxygen	% vol	15.20	21.40	18.3	21	20.0	21.0	18.9	20.8	16.00	21.30	16.40	20.20	20.90	21.10	19	18	20.1	17.7	21.5	20.1	20.4	22.3	16	7.7	21.8
Atmospheric Pressure	mbars	990	1028	1011	1011	1014	999	986	1007	1000	993	1018	1013	997.00	1025	1019	1012	1012	1014	1006	1013	1011	1008	1009	1005	1003
Gas Pressure	mbars	0.01	+/-0.01	0.01	0.01	+/-0.01	-0.27	-0.03	0.01	-0.12	<0.1	-0.01	-0.17	0.20	-0.25	0.23	0.19	0.22	-0.12	0.1	0.09	-0.21	-0.1	0.02	-0.29	-0.14
Gas Flow Rate	l/hr	0.2	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.2	-0.2	-0.3	-0.2	<0.1	-0.1	<0.1	0.1	<0.1	0.2	0.7	0.1	0.1	0.3	0.1	<0.1	0.1



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV27**

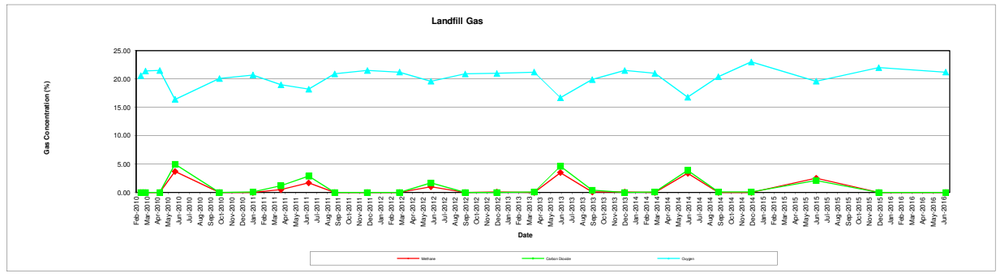
Determinand	**Units**					(Sep Mon)	(Dec Mon)																		
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	14:35	13:15	16:17	09:57	12:01			13:03	11:47:00	15:15	14:34	14:37	13:49	14:13	11:33	10:31	10:01	09:53	11:50	10:11	10:22	14:22	11:13	13:37
Methane	% vol	5.60	2.20	1.9	2.4	3.1	2.0	18.4	1	1.30	2.80	0.80	1.40	0.10	1.40	<0.1	5.3	4.1	1.4	<0.1	6.8	<0.1	4.2	4.5	0.5
Carbon Dioxide	% vol	3.90	1.70	1.3	1.8	2.1	1.6	9.8	0.6	0.80	1.90	0.70	1.00	0.10	0.90	0.3	2.5	2.6	0.8	0.1	3.9	0.1	2.1	3	0.3
Oxygen	% vol	18.80	20.30	20.9	20.3	18.2	19.3	14.0	20.7	20.30	20.10	20.80	20.30	20.80	20.40	20.6	18.7	18.9	20.9	20.8	17.6	22.3	19.5	19.8	21.1
Atmospheric Pressure	mbars	1000	1028	1011	1011	1010	999	986	1007	997	991	1011	1010	995.00	1024	1014	1005	1009	1015	1000	1009	1000	1007	1007	1003
Gas Pressure	mbars	0.00	-0.01	-0.12	0.04	0.05	-0.20	-0.32	0.00	-0.22	<0.1	0.07	-0.14	0.08	-0.16	0.31	-0.09	-0.1	-0.03	0.1	0.31	-0.05	0.05	-0.11	<0.01
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.1	<0.1	-0.2	-0.1	-0.1	n/a	<0.1	<0.1	<0.1	0.1	0.3	<0.1	0.2	0.2	0.4	0.2	<0.1	-0.4
																	blades broken. Gas tap stuck closed	Blades broken, gas tap stuck closed.							



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV28**

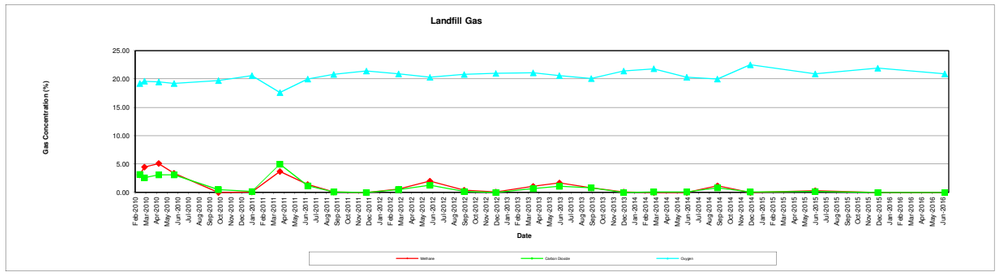
Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	14:35	13:20	16:14	09:55	11:59			12:49	11:32:00	15:00	14:13	15:01	13:35	14:19	11:52	10:41	10:27	10:07	10:43	12:07	10:34	10:44	14:08	10:43	13:34
Methane	% vol	0.00	<0.10	<0.1	3.7	<0.1	<0.1	0.5	1.7	<0.1	<0.1	<0.1	1.00	<0.1	0.10	<0.1	3.5	0.1	0.1	<0.1	3.4	<0.1	<0.1	2.5	<0.1	<0.1
Carbon Dioxide	% vol	0.00	<0.10	<0.1	5	<0.1	0.1	1.2	2.9	<0.1	<0.1	<0.1	1.70	<0.1	<0.1	0.1	4.6	0.4	<0.1	0.1	3.9	0.1	0.1	2.1	<0.1	<0.1
Oxygen	% vol	20.60	21.40	21.5	16.4	20.1	20.7	19.0	18.2	20.90	21.50	21.20	19.60	20.90	21.00	21.2	16.7	19.9	21.5	21	16.8	20.4	23	19.6	22	21.2
Atmospheric Pressure	mbars	1000	1028	1011	1011	1010	999	986	1007	997	991	1012	1010	996.00	1023	1014	1011	1010	1016	998	1011	1009	1001	1007	1007	1003
Gas Pressure	mbars	0.06	-0.02	0.02	0.08	+/-0.01	0.05	-0.04	0.00	-0.26	<0.1	0.06	-0.36	0.14	-0.28	0.12	0.1	0.26	-0.1	0.21	-0.02	-0.48	-0.36	-0.03	-0.05	<0.01
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.3	0.0	<0.1	-0.1	-0.2	-0.4	-0.1	<0.1	-0.1	0.2	0.1	0.2	<0.1	0.3	0.1	0.2	0.6	0.2	0.2	<0.1



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV29**

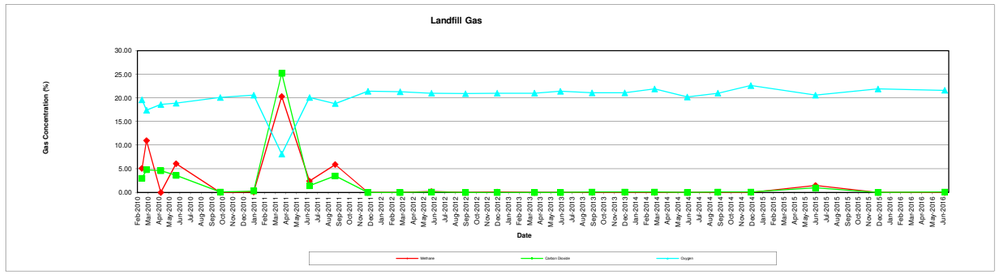
Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	14:40	13:20	16:11	09:52	11:56			12:24	11:08:00	14:36	13:49	13:34	13:02	14:24	12:17	11:10	10:50	10:31	11:06	12:31	11:16	11:28	13:43	11:09	13:28
Methane	% vol	3.10	4.50	5.1	3.4	<0.1	0.1	3.7	1.4	0.10	<0.1	0.60	2.00	0.40	0.10	1.1	1.7	0.8	0.1	<0.1	<0.1	1.2	<0.1	0.3	<0.1	<0.1
Carbon Dioxide	% vol	3.20	2.60	3.1	3.1	0.5	0.2	5.0	1.2	0.10	<0.1	0.50	1.30	0.20	<0.1	0.7	1.1	0.8	<0.1	0.1	0.1	0.8	0.1	0.2	<0.1	<0.1
Oxygen	% vol	19.20	19.60	19.5	19.2	19.7	20.6	17.6	20.0	20.80	21.40	20.90	20.30	20.80	21.00	21.1	20.6	20.1	21.4	21.8	20.3	20	22.5	20.9	21.9	20.9
Atmospheric Pressure	mbars	1000	1028	1011	1011	1010	999	986	1007	997	991	1013	1010	995.00	1024.00	1014	1011	1010	1016	1000	1011	1010	1002	1007	1007	1003
Gas Pressure	mbars	0.07	0.01	-0.01	-0.08	0.04	-0.30	-0.01	0.00	-0.32	<0.1	0.10	-0.34	0.16	-0.13	0.22	0.03	-0.03	-0.07	0.05	0.14	0.09	-0.02	<0.01	-0.09	-0.31
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.2	0.0	<0.1	<0.1	-0.3	-0.2	-0.4	0.1	-0.3	<0.1	<0.1	0.1	<0.1	0.3	<0.1	<0.1	0.3	0.3	<0.1	<0.1
										Blades broken							No gas tap or blades present	No gas tap or blades present								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV30**

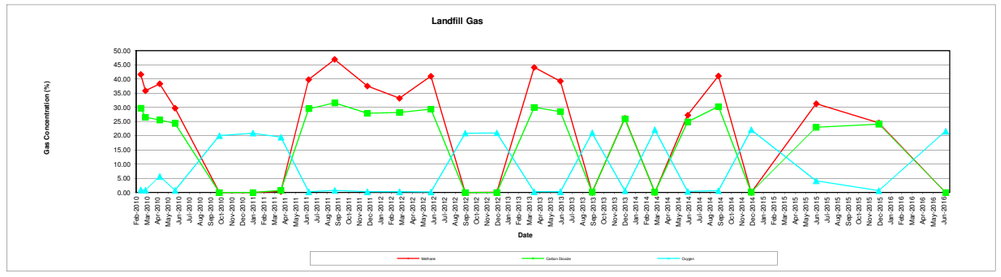
Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	14:45	13:20	16:08	09:50	11:54			11:37	10:32:00	13:57	12:00	12:43	12:21	14:28	13:03	12:36	11:28	11:32	12:20	13:30	11:46	11:51	11:51	11:05	12:07
Methane	% vol	5.10	11.00	9,3	6.1	<0.1	0.1	20.3	2.4	5.90	<0.1	<0.1	0.20	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.5	<0.1	<0.1
Carbon Dioxide	% vol	3.00	4.80	4.6	3.6	0.1	0.3	25.2	1.4	3.50	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	0.1	0.1	1	<0.1	0.1
Oxygen	% vol	19.60	17.40	18.6	18.9	20.1	20.6	8.1	20.1	18.80	21.40	21.30	21.00	20.90	21.00	21	21.4	21.1	21.1	21.9	20.2	21	22.6	20.6	21.9	21.6
Atmospheric Pressure	mbars	1000	1028	1011	1011	1010	999	986	1007	998	992	1014	1011	996.00	1024.00	1016	1011	1010	1014	1003	1012	1010	1003	1008	1008	1003
Gas Pressure	mbars	0.06	0.01	0.07	0.05	0.02	-0.07	-0.09	0.00	0.00	<0.1	-0.03	-0.04	0.16	-0.06	0.12	0.03	-0.17	-0.02	-0.09	0.15	-0.1	-0.14	-0.02	-0.12	<0.01
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.1	0.0	<0.1	<0.1	-0.4	-0.8	<0.1	<0.1	<0.1	-0.2	-0.1	0.1	0.4	0.6	<0.1	0.3	0.4	0.2	<0.1	0.5
										Blades broken							Blades broken	Blades broken.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV31**

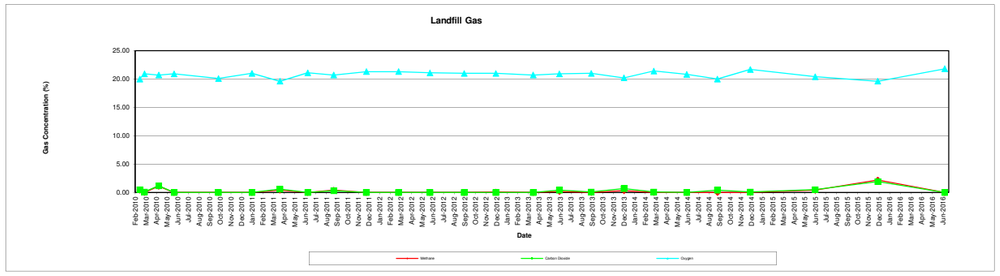
Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	14:45	13:25	16:05	09:48	11:52			11:06	10:08:00	13:32	11:26	12:05	11:52	14:33	12:22	13:19	11:52	11:54	13:02	14:00	12:12	12:18	11:30	11:01	12:02
Methane	% vol	41.60	35.90	38.3	29.7	<0.1	<0.1	0.4	39.8	46.90	37.50	33.20	41.00	<0.1	0.10	44.1	39.2	<0.1	26.2	<0.1	27.3	41.1	<0.1	31.3	24.5	<0.1
Carbon Dioxide	% vol	29.70	26.50	25.5	24.3	<0.1	<0.1	0.7	29.5	31.60	27.90	28.20	29.40	<0.1	<0.1	30	28.5	0.1	26	0.1	24.9	30.3	0.1	23	24.1	<0.1
Oxygen	% vol	0.90	0.80	5.7	0.7	20.0	20.9	19.5	0.3	0.70	0.30	0.30	0.20	20.90	21.00	0.3	0.3	21	0.6	22.1	0.4	0.6	22.1	4.1	0.6	21.6
Atmospheric Pressure	mbars	1000	1028	1011	1011	1010	999	986	1007	998	992	1015	1011	996.00	1024.00	1017	1011	1011	1014	1003	1012	1010	1003	1008	1007	1003
Gas Pressure	mbars	0.08	0.02	0.03	-0.09	+/-0.01	0.09	-0.01	0.00	-0.21	<0.1	0.20	-0.03	0.16	-0.21	0.2	-0.17	-0.17	-0.1	0.09	0.19	-0.12	-0.14	-0.02	<0.01	<0.01
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.1	-0.3	-0.3	-0.1	<0.1	-0.2	-0.2	0.2	0.1	0.2	0.6	<0.1	0.3	0.1	0.4	<0.1	-0.1



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV32**

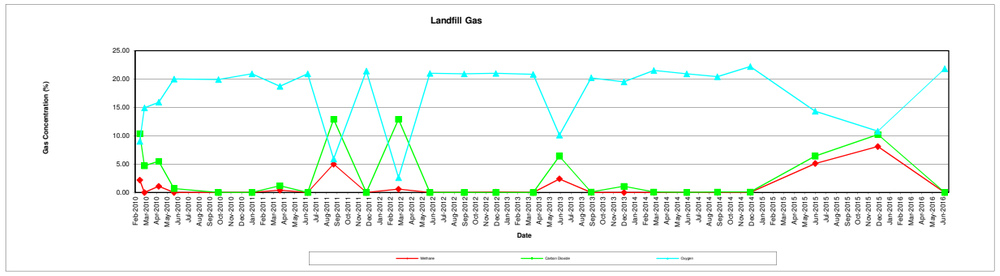
Determinand	**Units**					(Sep Mon)	(Dec Mon)																		
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	14:50	13:25	16:03	09:46	11:15			9:46	09:35:00	13:00	10:31	11:00	10:59	14:37	11:51	14:22	12:18	13:25	14:03	14:20	13:58	13:34	10:37	14:32	09:56
Methane	% vol	0.40	<0.10	1.1	<0.1	<0.1	<0.1	0.4	<0.1	0.40	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	0.2	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	0.4	2.2	<0.1
Carbon Dioxide	% vol	0.50	0.10	1.2	<0.1	<0.1	<0.1	0.6	<0.1	0.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	0.1	0.7	0.1	<0.1	0.4	0.1	0.5	1.9	<0.1
Oxygen	% vol	20.00	20.90	20.7	20.9	20.1	21.0	19.6	21.1	20.70	21.30	21.30	21.10	21.00	21.00	20.7	20.9	21	20.2	21.4	20.8	20	21.7	20.4	19.6	21.8
Atmospheric Pressure	mbars	1000	1028	1011	1011	1014	999	986	1007	999	992	1016	1011	996.00	1025.00	1018	1012	1012	1013	1004	1013	1010	1006	1009	1004	1002
Gas Pressure	mbars	0.07	0.06	0.09	-0.09	0.02	-0.07	-0.04	0.00	0.00	<0.1	-0.09	-0.09	0.15	-0.11	0.2	0.07	0.19	0.19	-0.12	0.05	-0.1	-0.14	-0.05	-0.33	-0.12
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.1	-0.4	-0.1	<0.1	-0.1	-0.2	<0.1	0.2	0.2	0.4	0.6	0.2	0.1	0.5	0.4	0.1	<0.1
																	Blades broken	Blades broken.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV33**

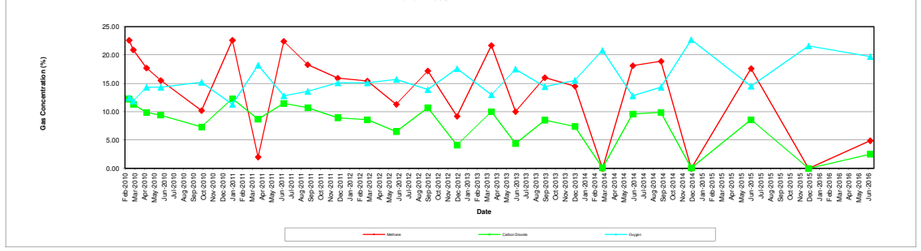
Determinand	**Units**					(Sep Mon)	(Dec Mon)																		
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	14:50	13:30	16:00	09:42	11:12			9:26	09:15:00	12:43	10:10	10:31	10:37	14:41	11:18	14:57	13:53	14:10	14:32	14:57	14:12	13:50	10:55	14:35	10:00
Methane	% vol	2.20	<0.10	1.1	<0.1	<0.1	<0.1	0.4	<0.1	5.00	<0.1	0.60	<0.1	<0.1	0.10	<0.1	2.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	5.1	8.1	<0.1
Carbon Dioxide	% vol	10.40	4.70	5.5	0.7	<0.1	<0.1	1.2	<0.1	12.90	<0.1	12.90	<0.1	<0.1	<0.1	<0.1	6.4	0.1	1.1	0.1	<0.1	0.1	0.1	6.4	10.2	<0.1
Oxygen	% vol	9.00	14.90	15.9	20	19.9	20.9	18.7	20.9	5.90	21.40	2.60	21.00	20.90	21.00	20.8	10.1	20.2	19.5	21.5	20.9	20.4	22.2	14.3	10.8	21.8
Atmospheric Pressure	mbars	1000	1028	1011	1011	1014	999	986	1007	1000	993	1017	1012	997.00	1025.00	1019	1012	1012	1014	1006	1013	1011	1007	1009	1004	1002
Gas Pressure	mbars	0.05	0.01	+/-0.01	0.01	-0.04	0.20	-0.04	0.00	0.02	<0.1	-0.15	-0.06	0.21	-0.21	0.33	0.02	0.24	-0.09	0.15	0.03	-0.17	-0.1	0.03	-0.18	-0.28
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	0.1	+/-0.1	0.2	0.0	<0.1	-0.2	-0.3	-0.3	-0.6	<0.1	<0.1	0.1	0.1	0.1	0.3	0.8	0.1	0.1	0.4	0.2	0.2	<0.1
																	Blades broken	Blades broken.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV34**

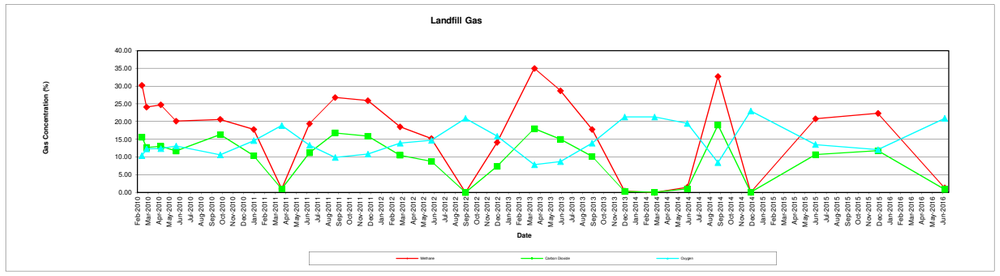
Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	14:30	14:00	16:19	09:59	12:04			13:07	11:50:00	15:18	14:37	14:32	13:45	15:09	11:29	10:36	10:05	09:49	11:53	11:46	10:14	10:26	14:25	11:32	13:40
Methane	% vol	22.60	20.90	17.7	15.5	10.2	22.6	2.0	22.4	18.30	15.90	15.40	11.30	17.20	9.20	21.7	10	16	14.5	<0.1	18.1	18.9	<0.1	17.6	<0.1	4.9
Carbon Dioxide	% vol	12.20	11.30	9.9	9.4	7.3	12.3	8.7	11.5	10.70	8.90	8.60	6.50	10.70	4.10	10	4.4	8.5	7.4	0.1	9.6	9.9	0.1	8.6	<0.1	2.5
Oxygen	% vol	12.50	11.90	14.3	14.3	15.2	11.3	18.2	12.8	13.60	15.10	15.10	15.70	13.90	17.60	13	17.5	14.4	15.5	20.8	12.8	14.3	22.7	14.5	21.6	19.7
Atmospheric Pressure	mbars	990	1028	1011	1011	1010	999	986	1007	997	991	1011	1010	997.00	1024.00	1014	1005	1009	1015	999	1010	1009	1000	1007	1007	1003
Gas Pressure	mbars	0.95	+/-0.01	-0.02	-0.03	0.07	-0.19	-0.06	0.00	-0.34	<0.1	0.05	-0.15	0.13	-0.25	-0.02	-0.07	-0.05	-0.05	0.1	-0.1	0.05	-0.12	-0.02	-0.16	<0.01
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.1	-0.2	-0.1	-0.1	<0.1	<0.1	0.2	0.1	0.1	0.1	0.3	0.3	0.2	0.4	0.2	<0.1	<0.1
																	Gas tap requires replacing	Gas tap requires replacing								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV35**

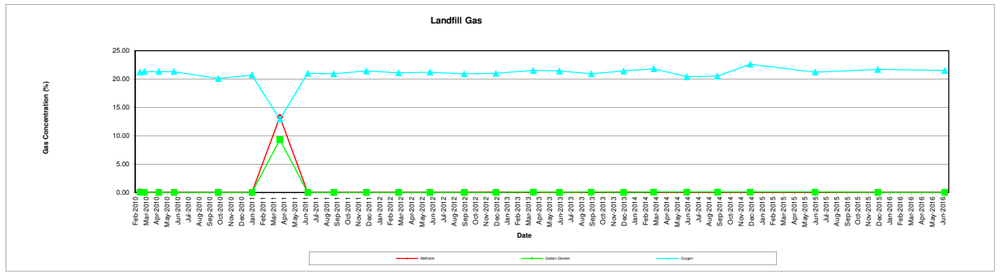
Determinand	**Units**					(Sep Mon)	(Dec Mon)																		
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	14:35	13:55	16:19	10:02	12:08			12:46	11:29:00	14:57	14:09	15:04	13:32	15:04	11:56	12:13	10:24	10:11	10:47	12:03	10:31	10:42	14:05	11:40	13:43
Methane	% vol	30.20	24.10	24.7	20.1	20.6	17.8	1.0	19.4	26.80	25.90	18.50	15.20	<0.1	14.10	35	28.7	17.8	0.4	<0.1	1.5	32.7	<0.1	20.8	22.3	1.3
Carbon Dioxide	% vol	15.60	12.70	13.0	11.7	16.3	10.4	1.0	11.2	16.80	15.90	10.50	8.80	<0.1	7.40	18	15	10.2	0.3	0.1	1	19	0.1	10.7	11.8	0.9
Oxygen	% vol	10.40	12.30	12.4	13.1	10.6	14.6	18.9	13.3	9.90	10.80	13.90	14.70	20.90	15.90	7.8	8.7	13.9	21.3	21.3	19.5	8.4	23	13.5	12.1	20.9
Atmospheric Pressure	mbars	990	1028	1011	1011	1010	999	986	1007	997	991	1012	1010	996.00	1024.00	1014	1011	1010	1016	999	1011	1010	1001	1007	1007	1003
Gas Pressure	mbars	-0.04	+/-0.01	0.39	-0.07	0.02	-0.39	-0.07	0.00	-0.37	<0.1	0.08	-0.08	0.11	-0.09	0.07	0.27	0.24	-0.07	0.02	0.03	0.07	-0.38	<0.01	-0.13	<0.01
Gas Flow Rate	l/hr	-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.2	0.0	<0.1	<0.1	-0.2	-0.3	-0.1	<0.1	-0.2	0.2	0.2	<0.1	<0.1	0.2	0.1	0.2	0.6	0.2	<0.1	-0.3
																	Blades broken	Blades broken.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV36**

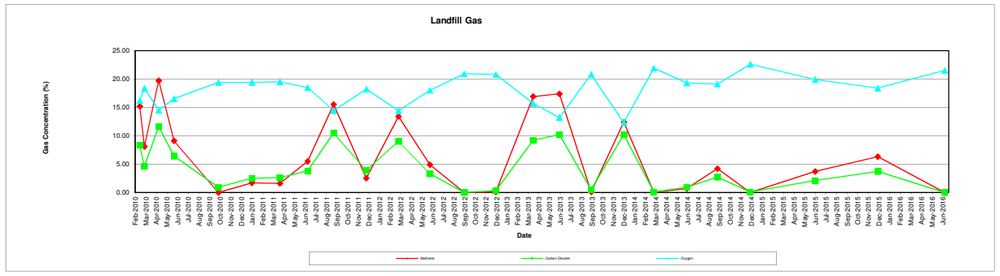
Determinand	**Units**					(Sep Mon)	(Dec Mon)																		
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	14:40	13:55	16:22	10:04	12:10			12:27	11:11:00	14:39	13:52	13:39	13:05	15:01	12:14	11:13	10:53	10:27	11:02	12:34	11:13	11:32	13:45	11:43	13:46
Methane	% vol	0.20	<0.10	<0.1	<0.1	<0.1	<0.1	13.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.10	<0.10	<0.1	<0.1	<0.1	<0.1	9.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	0.1	0.1	0.1	0.1	0.1	<0.1	<0.1
Oxygen	% vol	21.20	21.30	21.3	21.3	20.1	20.7	12.9	21.0	20.90	21.40	21.10	21.20	20.90	21.00	21.5	21.4	20.9	21.4	21.8	20.4	20.5	22.6	21.2	21.7	21.5
Atmospheric Pressure	mbars	990	1028	1011	1011	1010	999	986	1007	997	991	1013	1011	996.00	1024.00	1015	1011	1010	1016	1000	1011	1010	1002	1007	1007	1003
Gas Pressure	mbars	-0.15	-0.01	0.01	0.02	0.02	-0.30	-0.10	0.00	-0.30	<0.1	0.14	-0.17	0.15	-0.09	0.07	-0.07	-0.03	-0.1	-0.1	0.05	0.1	-0.15	-0.02	-0.13	<0.01
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.2	0.0	<0.1	<0.1	-0.2	<0.1	<0.1	<0.1	-0.1	0.3	<0.1	0.1	<0.1	0.3	<0.1	0.1	0.2	0.2	<0.1	-0.2
										Blades broken							Blades broken	Blades broken.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV37**

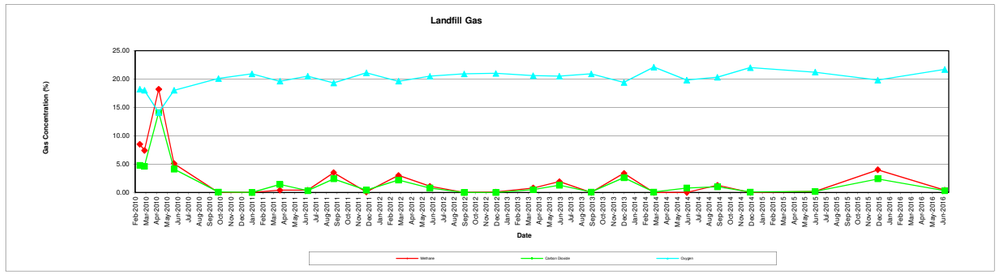
Determinand	**Units**					(Sep Mon)	(Dec Mon)																		
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	14:40	13:45	16:29	10:06	12:12			11:33	10:28:00	13:53	11:56	12:38	12:17	14:57	12:54	12:31	11:25	11:35	12:17	13:27	11:50	11:48	11:49	11:46	13:49
Methane	% vol	15.20	8.10	19.7	9.1	<0.1	1.7	1.6	5.5	15.50	2.50	13.40	4.90	<0.1	0.10	16.9	17.4	0.1	12.4	<0.1	0.7	4.2	<0.1	3.7	6.3	<0.1
Carbon Dioxide	% vol	8.30	4.60	11.6	6.4	0.9	2.5	2.6	3.8	10.50	3.90	9.00	3.30	<0.1	0.30	9.2	10.2	0.5	10.2	0.1	0.9	2.7	0.1	2.1	3.7	<0.1
Oxygen	% vol	16.20	18.40	14.5	16.5	19.4	19.4	19.5	18.5	14.40	18.20	14.40	18.00	20.90	20.80	15.7	13.2	20.8	12.3	21.9	19.3	19.1	22.6	19.9	18.4	21.5
Atmospheric Pressure	mbars	990	1028	1011	1011	1010	999	986	1007	998	992	1015	1011	996.00	1024.00	1015	1012	1010	1014	1002	1012	1010	1003	1008	1007	1003
Gas Pressure	mbars	0.06	+/-0.01	-0.01	+/-0.01	+/-0.01	-0.1	-0.03	0.00	-0.19	<0.1	0.05	-0.10	0.17	-0.08	0.29	-0.15	-0.19	-0.19	-0.07	0.12	-0.1	0.03	-0.05	-0.13	<0.01
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.1	-0.3	<0.1	<0.1	-0.2	-0.1	0.2	-0.1	0.2	0.2	0.4	0.1	0.3	0.2	0.3	<0.1	<0.1
																	Blades broken	Blades broken.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV38**

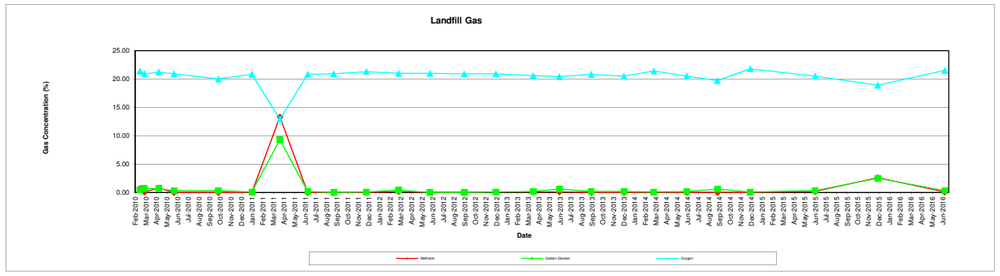
Determinand	**Units**					(Sep Mon)	(Dec Mon)																		
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	14:45	13:40	16:32	10:08	12:15			11:1	10:12:00	13:35	11:30	12:15	11:55	14:53	12:18	13:23	11:56	11:50	13:04	14:03	12:09	12:21	11:33	14:43	09:51
Methane	% vol	8.50	7.40	18.2	5.1	<0.1	<0.1	0.4	0.4	3.50	0.10	3.00	1.10	<0.1	0.10	0.8	1.9	<0.1	3.4	<0.1	<0.1	1.3	<0.1	0.2	4	0.4
Carbon Dioxide	% vol	4.80	4.60	14.1	4.1	0.1	<0.1	1.4	0.3	2.40	0.40	2.20	0.80	<0.1	<0.1	0.5	1.3	0.1	2.6	0.1	0.8	1	0.1	0.2	2.4	0.3
Oxygen	% vol	18.20	18.00	14.1	18	20.1	20.9	19.6	20.5	19.30	21.10	19.60	20.50	20.90	21.00	20.6	20.5	20.9	19.4	22.1	19.8	20.3	22	21.2	19.8	21.7
Atmospheric Pressure	mbars	990	1028	1011	1011	1010	999	986	1007	998	992	1015	1011	996.00	1025.00	1017	1011	1011	1014	1004	1012	1010	1003	1009	1003	1002
Gas Pressure	mbars	0.02	0.01	+/-0.01	0.01	0.04	+/-0.01	-0.01	0.00	-0.24	<0.1	-0.05	-0.17	0.17	-0.14	0.14	-0.17	-0.07	-0.21	-0.03	0.22	-0.03	-0.12	-0.03	-0.36	-0.14
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.1	-0.3	<0.1	-0.1	<0.1	<0.1	<0.1	0.2	0.1	0.4	0.4	0.1	0.2	0.1	0.3	<0.1	-0.1
										Blades broken							Blades broken	Blades broken.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV39**

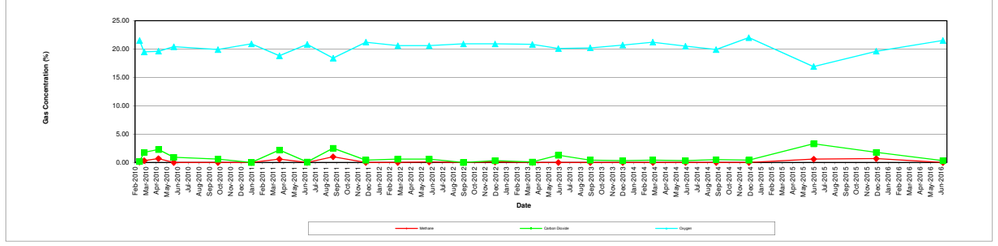
Determinand	**Units**					(Sep Mon)	(Dec Mon)																		
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	14:45	13:35	16:34	10:10	12:17			9:43	09:31:00	12:57	10:26	10:54	10:54	14:50	11:55	14:19	12:14	13:21	13:59	14:18	14:01	13:37	10:41	14:41	09:48
Methane	% vol	0.70	0.10	0.8	<0.1	<0.1	<0.1	13.3	<0.1	<0.1	<0.1	0.20	<0.1	<0.1	0.10	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	2.6	0.1
Carbon Dioxide	% vol	0.50	0.70	0.7	0.3	0.3	0.1	9.3	0.2	<0.1	0.10	0.40	<0.1	<0.1	0.10	0.2	0.6	0.2	0.2	0.1	0.2	0.6	0.1	0.3	2.5	0.3
Oxygen	% vol	21.40	20.90	21.2	20.9	20.0	20.8	12.9	20.8	20.90	21.30	21.00	21.00	20.90	20.90	20.6	20.4	20.8	20.5	21.4	20.5	19.7	21.8	20.5	18.9	21.5
Atmospheric Pressure	mbars	990	1028	1011	1011	1010	999	986	1007	999	992	1017	1011	996.00	1025.00	1017	1011	1012	1013	1004	1013	1010	1006	1009	1004	1003
Gas Pressure	mbars	-0.09	+/-0.01	0.02	0.02	0.05	0.05	-0.06	0.00	-0.13	<0.1	0.46	-0.13	0.17	-0.12	0.09	0.05	-0.07	0.17	-0.03	0.1	-0.14	-0.14	-0.02	-0.15	-0.14
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.1	<0.1	-0.1	-0.3	<0.1	-0.1	-0.1	<0.1	<0.1	0.2	0.2	0.4	0.6	0.2	0.2	0.3	0.3	0.1	<0.1
										Blades broken							Blades broken	Blades broken.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV40**

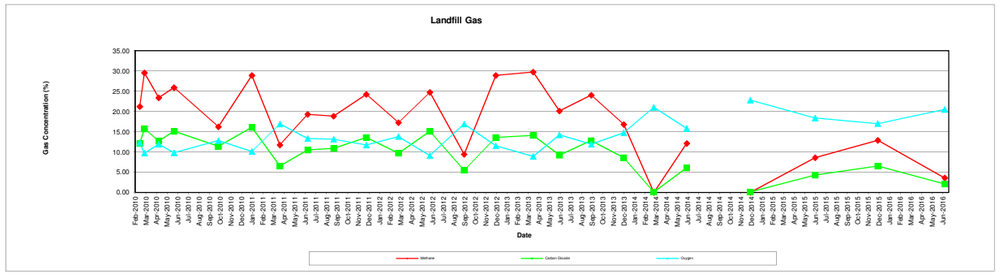
Determinand	**Units**					(Sep Mon)	(Dec Mon)																		
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	14:50	13:30	16:36	10:12	12:19			9:3	09:19:00	12:46	10:14	10:35	10:41	14:45	11:15	15:01	13:57	14:13	14:34	15:00	14:09	13:46	10:52	14:38	09:44
Methane	% vol	0.10	0.30	0.7	<0.1	<0.1	<0.1	0.6	<0.1	1.00	<0.1	<0.1	0.10	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	0.7	<0.1
Carbon Dioxide	% vol	0.20	1.80	2.3	0.9	0.6	<0.1	2.2	0.1	2.50	0.40	0.60	0.60	<0.1	0.30	0.1	1.3	0.4	0.3	0.4	0.3	0.5	0.4	3.3	1.8	0.3
Oxygen	% vol	21.50	19.50	19.6	20.4	19.9	20.9	18.8	20.8	18.40	21.20	20.60	20.60	20.90	20.90	20.8	20.1	20.2	20.7	21.2	20.5	19.9	22	16.9	19.6	21.5
Atmospheric Pressure	mbars	990	1028	1011	1011	1010	999	986	1007	999	993	1017	1012	996.00	1026.00	1018	1012	1012	1014	1006	1013	1011	1007	1009	1004	1003
Gas Pressure	mbars	+/-0.01	-0.01	-0.02	-0.01	+/-0.01	-0.19	-0.06	0.00	0.03	<0.1	-0.05	-0.02	0.17	-0.16	0.26	0.05	0.24	-0.03	-0.12	0.07	-0.12	-0.17	-0.07	-0.15	-0.15
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.2	0.0	<0.1	-0.3	-0.2	-0.3	-0.2	<0.1	-0.1	-0.2	0.2	0.2	0.3	0.5	0.2	0.1	0.4	0.2	0.3	<0.1
																	Blades broken	Blades broken.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV41**

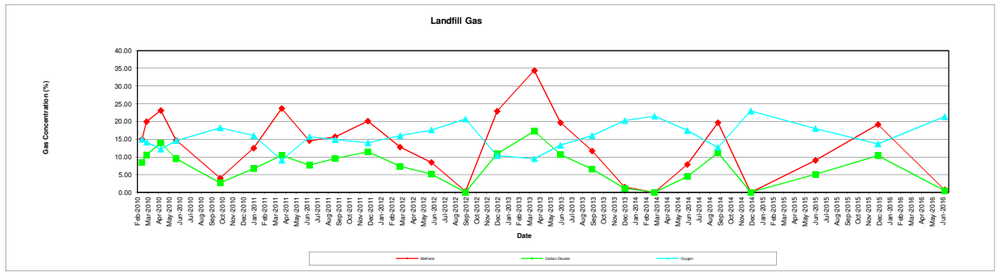
Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	14:10	14:05	15:55	10:29	12:35			13:09	11:54:00	15:22	14:41	14:27	13:42	15:14	11:25	11:33	10:09	09:46	11:56	11:50		10:30	14:28	12:00	14:01
Methane	% vol	21.20	29.50	23.4	25.9	16.2	28.9	11.7	19.3	18.80	24.20	17.20	24.70	9.40	28.90	29.7	20.1	24	16.8	<0.1	12.1		<0.1	8.6	12.9	3.6
Carbon Dioxide	% vol	12.10	15.70	12.7	15.1	11.4	16.1	6.5	10.5	10.90	13.60	9.70	15.10	5.50	13.60	14.1	9.2	12.8	8.6	0.1	6.1		0.1	4.3	6.5	2.1
Oxygen	% vol	12.30	9.70	11.9	9.8	12.8	10.1	16.9	13.3	13.10	11.70	13.80	9.10	16.90	11.50	8.9	14.2	11.9	14.7	21	15.8		22.8	18.4	17	20.5
Atmospheric Pressure	mbars	1000	1028	1011	1011	1010	999	986	1007	997	991	1011	1010	996.00	1024.00	1014	1011	1009	1016	1000	1011		1001	1007	1007	1003
Gas Pressure	mbars	0.10	0.01	0.25	+/-0.01	0.02	-0.29	-0.17	0.00	0.00	<0.1	-0.01	-0.28	0.10	-0.11	0.17	-0.03	0.03	-0.09	0.14	-0.07		-0.27	-0.03	-0.13	<0.01
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.2	0.0	<0.1	-0.1	-0.2	-0.4	-0.5	<0.1	<0.1	0.1	<0.1	0.1	0.1	0.3	0.1		0.5	0.2	<0.1	0.2
																						Gas vent accidentally missed during monitoring				



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV42**

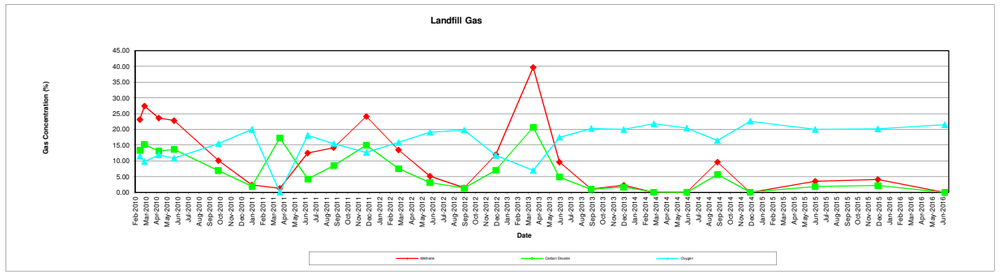
Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	14:15	14:10	16:53	10:27	12:31			12:42	11:26:00	14:53	14:05	15:11	13:27	15:25	12:00	12:18	10:20	10:14	10:50	12:00	10:28	10:39	14:02	11:56	13:58
Methane	% vol	15.00	20.00	23.1	14.7	4.0	12.5	23.7	14.6	15.70	20.10	12.80	8.50	0.30	22.90	34.4	19.7	11.7	1.5	<0.1	7.9	19.7	<0.1	9.1	19.2	0.7
Carbon Dioxide	% vol	8.50	10.60	14.0	9.5	2.7	6.7	10.5	7.7	9.60	11.50	7.40	5.20	0.10	10.90	17.3	10.7	6.6	1.2	0.1	4.5	11.2	0.1	5.1	10.4	0.5
Oxygen	% vol	15.00	14.20	12.2	14.6	18.2	16.0	9.1	15.7	14.90	14.00	16.00	17.60	20.70	10.40	9.5	13.3	16	20.3	21.5	17.5	12.7	23	18	13.7	21.4
Atmospheric Pressure	mbars	1000	1028	1011	1011	1010	999	986	1007	997	991	1012	1010	996.00	1024.00	1014	1012	1009	1016	999	1011	1010	1001	1007	1007	1004
Gas Pressure	mbars	0.13	0.05	+/-0.01	-0.08	0.03	-2.94	-0.20	0.00	-0.26	<0.1	0.13	-0.20	0.12	-0.12	0.09	-0.22	0.24	0.97	0.12	-0.02	0.09	-0.36	-0.03	-0.18	<0.01
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-1.9	-0.1	<0.1	<0.1	-0.2	<0.1	-0.5	<0.1	<0.1	0.2	0.1	0.1	<0.1	0.3	0.2	0.2	0.6	0.1	<0.1	<0.1
																	blades broken, gas tap very stiff	Brokem blades, gas tap very stiff.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	GV43

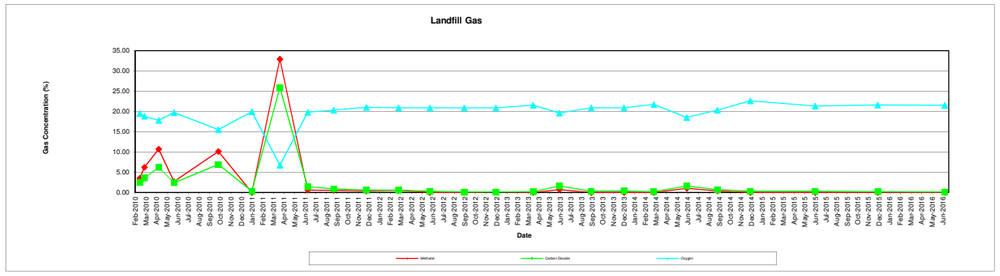
Determinand	Units					(Sep Mon)	(Dec Mon)																		
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	14:20	14:10	16:50	10:20	12:29			12:3	11:14:00	14:43	13:55	13:43	13:09	15:30	12:11	11:18	10:57	10:24	10:59	12:37	11:09	11:35	13:48	11:53	13:55
Methane	% vol	23.10	27.40	23.6	22.8	10.1	2.4	1.3	12.5	14.20	24.10	13.50	5.20	1.50	12.00	39.7	9.6	1.1	2.3	<0.1	<0.1	9.6	<0.1	3.5	4.1	<0.1
Carbon Dioxide	% vol	13.30	15.20	13.1	13.7	6.9	2.0	17.3	4.3	8.50	15.00	7.60	3.10	1.40	7.10	20.7	4.9	1	1.7	0.1	<0.1	5.7	0.1	1.9	2.2	<0.1
Oxygen	% vol	11.50	9.80	11.9	10.9	15.5	20.0	0.1	18.1	15.50	12.70	15.90	19.10	19.80	11.80	7	17.5	20.3	20	21.8	20.4	16.5	22.6	20	20.2	21.5
Atmospheric Pressure	mbars	1000	1028	1011	1011	1010	999	986	1007	997	991	1013	1011	996.00	1024.00	1015	1012	1010	1016	1000	1012	1010	1003	1007	1007	1004
Gas Pressure	mbars	-0.01	0.06	-0.06	+/-0.01	0.03	0.04	-0.02	0.00	-0.30	<0.1	0.08	-0.11	0.12	-0.08	0.22	-0.05	-0.07	-0.06	-0.17	0.1	0.14	-0.17	-0.07	-0.22	<0.01
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	<0.1	-0.2	-0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.1	<0.1	0.2	<0.1	<0.1	0.2	0.3	<0.1	<0.1
																	Blades broken	Blades broken.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV44**

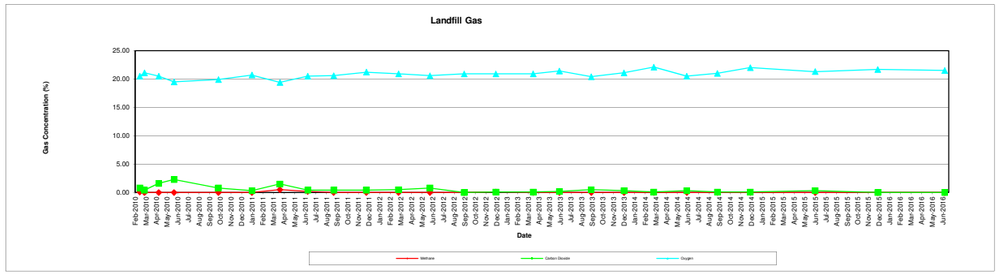
Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	14:20	14:15	16:49	10:18	12:29			11:29	10:25:00	13:50	11:53	12:34	12:13	15:34	12:49	00:28	11:09	11:38	12:13	13:24	11:54	11:46	11:45	11:50	13:52
Methane	% vol	3.50	6.20	10.7	2.7	10.1	<0.1	32.9	0.6	0.50	0.40	0.50	<0.1	<0.1	0.10	<0.1	0.7	<0.1	<0.1	<0.1	1	0.4	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	2.50	3.60	6.2	2.4	6.9	0.3	25.9	1.4	0.90	0.60	0.60	0.30	0.10	0.10	0.2	1.6	0.3	0.4	0.2	1.6	0.7	0.3	0.3	0.2	0.1
Oxygen	% vol	19.50	18.80	17.8	19.7	15.5	19.9	6.7	19.8	20.30	21.00	20.90	20.90	20.90	20.90	21.5	19.6	20.9	20.9	21.7	18.5	20.3	22.6	21.3	21.6	21.5
Atmospheric Pressure	mbars	1000	1028	1011	1011	1010	999	986	1007	998	992	1015	1011	996.00	1025.00	1015	1012	1011	1014	1002	1012	1010	1003	1008	1007	1004
Gas Pressure	mbars	0.12	0.04	-0.33	+/-0.01	0.03	-0.07	-0.06	0.00	-0.24	<0.1	0.11	-0.06	0.15	-0.09	0.38	0.21	0.24	-0.03	<0.01	0.24	<0.01	0.21	-0.03	-0.11	<0.01
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.2	-0.3	-0.3	-0.2	<0.1	-0.1	0.3	<0.1	0.1	0.3	0.5	0.1	0.3	0.3	0.2	<0.1	<0.1
																	Blades broken	Blades broken.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV45**

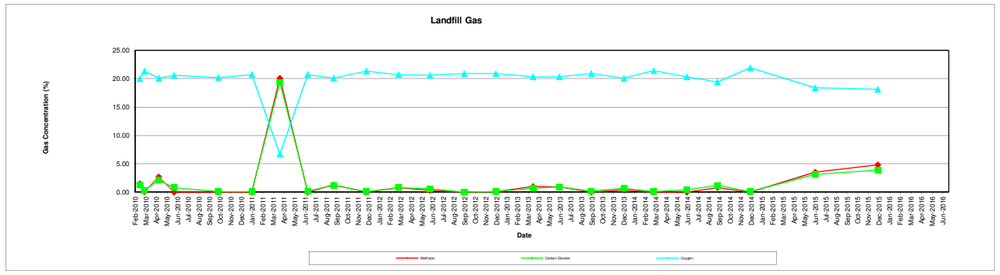
Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	14:25	14:25	16:46	10:16	12:24			11:16	10:15:00	13:39	11:33	12:19	11:59	15:41	12:15	13:27	11:59	11:47	13:07	14:06	12:05	12:23	11:36	12:25	14:19
Methane	% vol	0.10	<0.10	<0.1	<0.1	<0.1	<0.1	0.5	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.80	0.40	1.6	2.3	0.8	0.3	1.5	0.4	0.40	0.40	0.50	0.80	<0.1	0.10	0.1	0.2	0.5	0.3	0.1	0.3	0.1	0.1	0.3	<0.1	<0.1
Oxygen	% vol	20.50	21.10	20.5	19.5	19.9	20.7	19.4	20.5	20.60	21.20	20.90	20.60	20.90	20.90	20.9	21.4	20.4	21.1	22.1	20.5	21	22	21.3	21.7	21.5
Atmospheric Pressure	mbars	1000	1028	1011	1011	1010	999	986	1007	998	992	1015	1011	996.00	1025.00	1017	1012	1011	1014	1004	1012	1010	1003	1009	1007	1004
Gas Pressure	mbars	0.04	-0.07	0.09	-0.01	+/-0.01	-0.06	-0.05	0.00	-0.29	<0.1	0.08	-0.17	0.18	-0.09	0.13	-0.02	-0.12	-0.12	0.03	0.02	-0.07	-0.12	<0.01	-0.17	-0.27
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	<0.1	-0.3	<0.1	-0.4	<0.1	<0.1	<0.1	0.2	0.1	0.4	0.5	0.1	0.3	0.2	0.3	0.2	<0.1
										Blades broken							Blades broken	Blades broken.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV46**

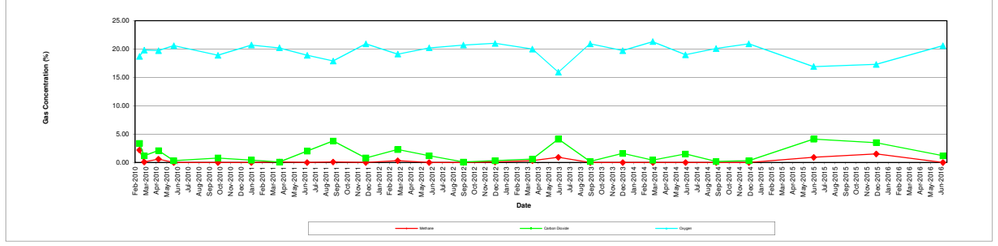
Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	14:25	14:20	16:39	10:14	14:20			9:38	09:28:00	12:52	10:23	10:48	10:49	15:44	11:58	14:16	12:10	13:18	13:56	14:14	14:04	13:40	10:45	12:29	
Methane	% vol	1.50	0.10	2.7	<0.1	<01	<0.1	20.1	<0.1	1.30	<0.1	0.80	0.30	<0.1	0.10	1	0.9	<0.1	0.4	<0.1	<0.1	0.8	<0.1	3.5	4.8	
Carbon Dioxide	% vol	1.30	0.30	2.1	0.8	0.1	0.1	19.3	0.2	1.20	0.10	0.80	0.60	<0.1	0.10	0.7	0.9	0.2	0.7	0.1	0.4	1.2	0.1	3.1	3.9	
Oxygen	% vol	20.00	21.30	20.1	20.6	20.2	20.7	6.7	20.7	20.10	21.30	20.70	20.60	20.90	20.90	20.3	20.3	20.9	20.1	21.4	20.3	19.4	21.9	18.4	18.1	
Atmospheric Pressure	mbars	1000	1028	1011	1011	1010	999	986	1007	999	992	1016	1011	996.00	1025.00	1017	1011	1011	1013	1004	1013	1010	1006	1009	1007	
Gas Pressure	mbars	0.02	+/-0.01	+/-0.01	0.01	-0.02	-0.06	-0.04	0.00	0.00	<0.1	0.26	-0.14	0.17	-0.14	0.06	0.12	-0.1	0.03	-0.22	0.12	-0.14	-0.1	0.02	-0.14	
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.1	<0.1	-0.1	-0.2	-0.1	-0.2	-0.3	-0.3	<0.1	0.2	0.1	0.5	0.5	0.1	0.2	0.4	0.1	-0.4	
										Blades broken							Blades broken	Blades broken								Gas and level measurement missed



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV47**

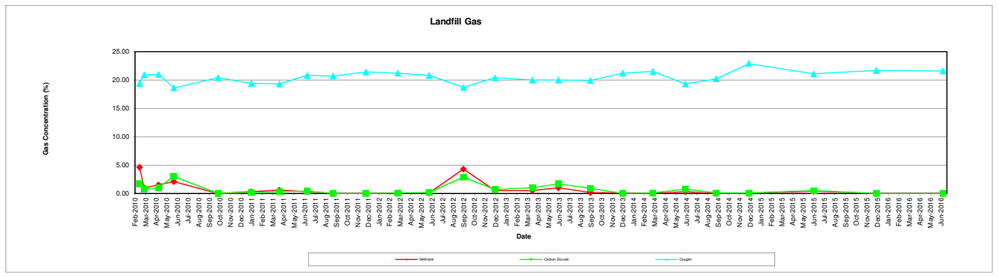
Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	15:45	12:15	14:29	08:42	10:24			10:35	08:55:00	13:12	10:55	10:07	10:16	12:02	11:38	14:36	12:33	13:39	14:15	14:34	13:38	13:22	10:22	13:57	10:27
Methane	% vol	2.20	0.10	0.6	<0.1	<0.1	<0.1	0.1	<0.1	0.10	<0.1	0.30	<0.1	<0.1	0.10	0.3	0.9	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.9	1.5	<0.1
Carbon Dioxide	% vol	3.40	1.20	2.1	0.3	0.8	0.4	0.1	2.0	3.80	0.80	2.30	1.20	0.10	0.30	0.6	4.1	0.2	1.6	0.4	1.5	0.2	0.3	4.1	3.5	1.2
Oxygen	% vol	18.70	19.80	19.7	20.6	18.9	20.7	20.2	18.9	17.90	20.90	19.10	20.20	20.70	21.00	20	15.9	20.9	19.7	21.3	19	20.1	20.9	16.9	17.3	20.6
Atmospheric Pressure	mbars	990	1028	1011	1011	1014	999	986	1007	1000	992	1017	1012	996.00	1023.00	1019	1012	1012	1013	1005	1013	1010	1005	1008	1006	1002
Gas Pressure	mbars	0.06	0.02	0.02	-0.02	0.02	-0.17	-0.04	0.00	-0.10	<0.1	-0.08	0.04	0.22	-0.13	0.2	-0.07	-0.09	-0.05	0.05	-0.05	0.14	-0.02	<0.01	-0.27	-0.1
Gas Flow Rate	l/hr	-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.2	-0.5	-0.8	-0.1	N/A	-0.5	0.1	0.1	<0.1	0.4	0.8	<0.1	0.1	<0.1	<0.1	<0.1	<0.1
																	Blades broken	Blades broken								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV48**

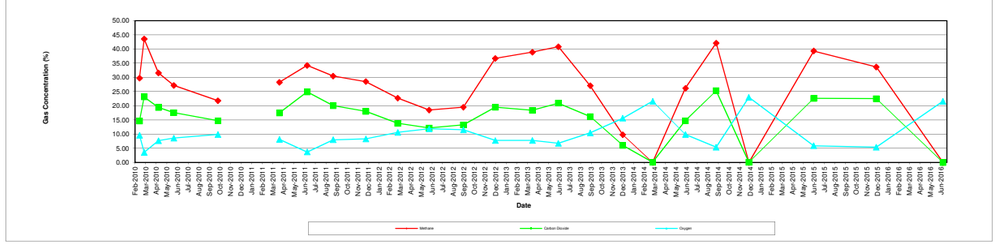
Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	14:10	14:30	16:57	10:31	12:38			13:13	11:57:00	15:25	14:44	14:22	13:39	15:18	11:20	11:29	10:13	09:42	12:02	11:54	10:21	10:32	14:30	12:03	14:04
Methane	% vol	4.60	1.00	1.5	2.1	<0.1	0.3	0.6	0.3	<0.1	<0.1	0.10	0.10	4.30	0.50	0.5	1	0.2	0.1	<0.1	0.3	<0.1	<0.1	0.4	<0.1	<0.1
Carbon Dioxide	% vol	1.70	0.80	1.0	3	<0.1	0.2	0.3	0.4	<0.1	<0.1	0.10	0.20	2.90	0.70	1	1.7	0.9	<0.1	0.1	0.8	0.1	0.1	0.5	<0.1	<0.1
Oxygen	% vol	19.40	20.90	21.0	18.6	20.4	19.4	19.3	20.8	20.70	21.40	21.20	20.80	18.70	20.40	20	20	19.9	21.2	21.5	19.3	20.2	22.9	21.1	21.7	21.6
Atmospheric Pressure	mbars	990	1028	1011	1011	1010	999	986	1007	997	991	1011	1010	996.00	1024.00	1014	1011	1009	1016	1001	1011	1010	1001	1007	1006	1003
Gas Pressure	mbars	-0.21	0.04	-0.15	0.18	+/-0.01	-0.31	-0.32	0.00	-0.07	<0.1	-0.26	-0.12	0.13	-0.06	0.05	-0.07	0.03	-0.22	-0.02	0.05	0.19	-0.17	<0.01	-0.18	<0.01
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.2	0.1	<0.1	<0.1	-0.2	-0.6	<0.1	<0.1	-0.1	0.1	<0.1	0.1	-0.4	0.5	0.1	0.3	0.4	0.2	<0.1	<0.1
										Blades broken							Blades broken	Blades broken								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV49**

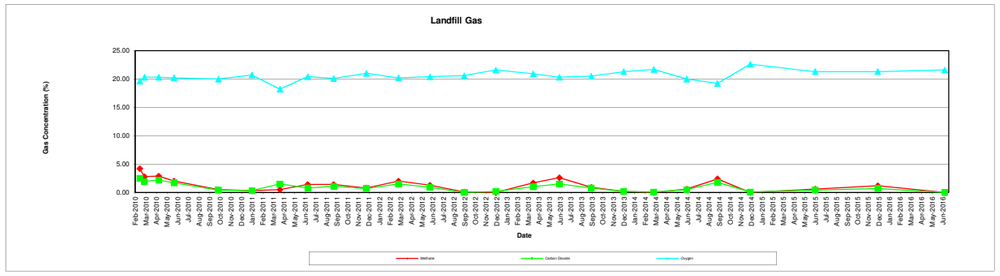
Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	11/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	14:10	14:30	17:00	10:33	12:40			12:37	11:21:00	14:50	14:02	14:16	13:18	10:53	12:03	11:25	10:17	10:18	10:53	11:57	10:24	10:36	13:56	12:06	14:07
Methane	% vol	29.70	43.50	31.6	27.2	21.8		28.3	34.2	30.50	28.50	22.70	18.50	19.50	36.70	38.9	40.8	27.1	9.8	<0.1	26.2	42.1	<0.1	39.3	33.7	<0.1
Carbon Dioxide	% vol	14.60	23.10	19.4	17.6	14.7		17.5	24.9	20.00	18.00	13.80	12.20	13.30	19.50	18.4	20.9	16.2	6	0.1	14.7	25.3	0.1	22.6	22.5	<0.1
Oxygen	% vol	9.60	3.60	7.7	8.6	9.9		8.1	3.7	8.00	8.30	10.60	11.90	11.50	7.80	7.8	6.8	10.4	15.6	21.6	9.9	5.4	23	5.9	5.4	21.6
Atmospheric Pressure	mbars	990	1028	1011	1011	1010		9.86	1007	997	991	1013	1011	996.00	1025.00	1015	1012	1010	1016	999	1011	1010	1001	1007	1006	1003
Gas Pressure	mbars	0.03	0.03	-0.21	0.01	0.06		-0.09	0.00	-0.30	<0.1	0.16	-0.13	0.12	-0.15	0.14	-0.07	0.12	-0.1	<0.01	0.05	0.19	-0.24	0.07	-0.17	<0.01
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1		0.0	<0.1	<0.1	-0.1	<0.1	-0.4	<0.1	0.1	<0.1	-0.1	-0.1	<0.1	0.3	0.1	0.2	0.6	0.2	<0.1	<0.1
																	Blades broken	Blades broken								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

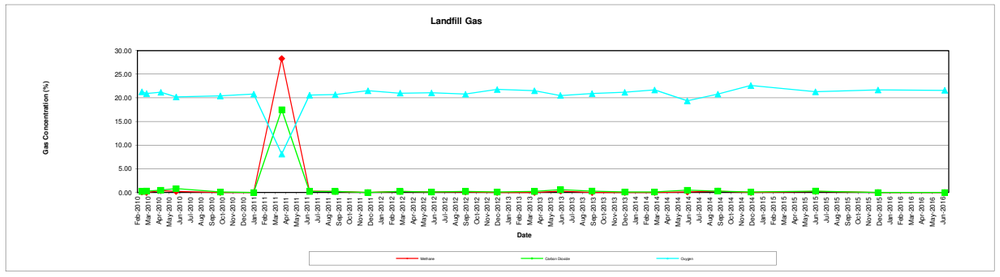
Sampling Location	**GV50**

Determinand	**Units**					(Sep Mon)	(Dec Mon)																		
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	14:15	14:30	17:03	10:35	12:42			12:33	11:17:00	14:46	13:59	13:47	13:14	14:50	12:06	11:22	11:00	10:21	10:56	12:40	11:05	11:38	13:52	12:09	14:10
Methane	% vol	4.20	2.80	2.9	2	0.5	0.3	0.5	1.4	1.40	0.80	2.00	1.30	0.10	<0.1	1.7	2.6	0.9	0.2	<0.1	0.6	2.4	<0.1	0.6	1.2	<0.1
Carbon Dioxide	% vol	2.50	1.90	2.2	1.7	0.4	0.3	1.5	0.8	1.10	0.70	1.50	0.90	<0.1	0.20	1	1.5	0.8	0.2	0.1	0.5	1.8	0.1	0.4	0.7	<0.1
Oxygen	% vol	19.60	20.30	20.3	20.2	20.0	20.7	18.2	20.4	20.10	21.00	20.20	20.40	20.60	21.60	20.9	20.3	20.5	21.3	21.7	20	19.2	22.6	21.3	21.3	21.6
Atmospheric Pressure	mbars	990	1028	1011	1011	1010	999	986	1007	997	991	1013	1011	996.00	1022.00	1015	1012	1010	1016	1000	1012	1010	1003	1007	1006	1004
Gas Pressure	mbars	-0.01	0.01	-0.04	0.01	+/-0.01	0.19	-0.06	0.00	-0.26	<0.1	0.05	-0.12	0.12	0.05	0.34	-0.07	-0.14	-0.08	-0.1	0.15	0.07	-0.05	<0.01	-0.16	<0.01
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.1	-0.1	-0.3	-0.2	<0.1	0.1	0.2	<0.1	0.1	<0.1	0.3	<0.1	0.1	0.2	0.1	<0.1	<0.1
																	Blades broken	Blades broken								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

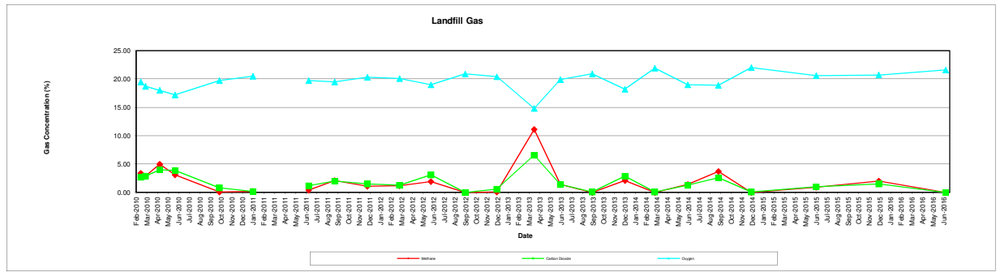
Sampling Location	**GV51**																									
Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	14:15	14:25	17:05	10:37	12:44			11:25	10:22:00	13:46	11:50	12:29	12:09	14:56	12:46	12:24	11:04	11:41	12:05	13:20	11:57	11:41	11:41	12:12	14:13
Methane	% vol	0.10	<0.10	0.4	0.2	<0.1	<0.1	28.3	0.3	0.20	<0.1	0.20	0.10	0.10	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	0.1	0.3	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	0.20	0.30	0.5	0.8	0.1	<0.1	17.5	0.2	0.20	<0.1	0.20	0.10	0.20	0.10	0.2	0.6	0.3	0.1	0.1	0.5	0.3	0.1	0.3	<0.1	<0.1
Oxygen	% vol	21.30	20.90	21.2	20.2	20.4	20.8	8.1	20.6	20.70	21.50	21.00	21.10	20.80	21.80	21.5	20.5	20.9	21.2	21.7	19.4	20.8	22.6	21.3	21.7	21.6
Atmospheric Pressure	mbars	990	1028	1011	1011	1010	999	986	1007	998	992	1015	1011	996.00	1022.00	1015	1012	1010	1014	1001	1011	1010	1003	1009	1006	1004
Gas Pressure	mbars	0.05	-0.05	-0.02	0.04	+/-0.01	-0.15	-0.09	0.00	-0.39	<0.1	0.12	-0.05	0.15	<0.05	0.53	-0.19	-0.09	-0.07	-0.19	0.22	<0.01	-0.1	-0.03	-0.17	<0.01
Gas Flow Rate	l/hr	+/-0.1	+/-0.1	-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.1	-0.3	-0.2	-0.2	-0.1	0.2	0.2	0.1	0.1	0.2	0.5	-0.2	0.3	0.2	0.4	0.2	<0.1



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV52**

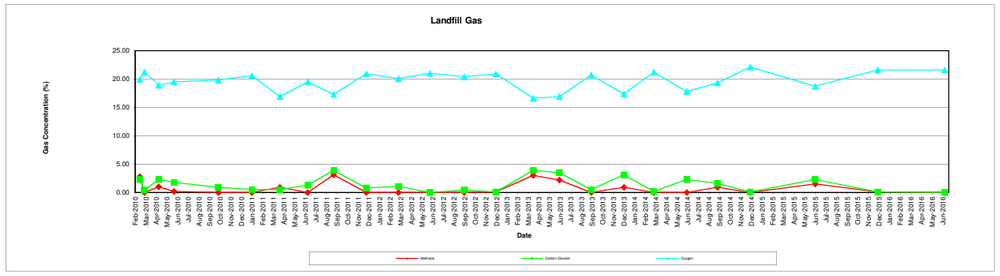
Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	14:20	14:20	17:09	10:39	12:46		Seized	11:2	10:19:00	13:43	11:42	12:25	12:03	15:52	12:05	13:31	12:03	11:43	12:10	14:09	12:01	12:26	11:38	12:16	14:16
Methane	% vol	3.40	2.90	5.0	3.1	0.1	0.2		0.4	2.10	1.10	1.20	1.90	<0.1	0.10	11.1	1.4	<0.1	2.1	<0.1	1.4	3.7	<0.1	0.9	2	<0.1
Carbon Dioxide	% vol	2.70	2.90	4.0	3.9	0.8	0.2		1.2	2.00	1.50	1.30	3.10	<0.1	0.60	6.6	1.4	0.1	2.9	0.1	1.3	2.6	0.1	1	1.5	<0.1
Oxygen	% vol	19.50	18.70	18.0	17.2	19.7	20.5		19.7	19.50	20.30	20.10	19.00	20.90	20.40	14.8	19.9	20.9	18.2	21.9	19	18.9	22	20.6	20.7	21.6
Atmospheric Pressure	mbars	990	1028	1011	1011	1010	999		1007	998	992	1015	1011	996.00	1025.00	1017	1012	1011	1014	1001	1012	1010	1003	1008	1007	1004
Gas Pressure	mbars	0.02	-0.24	-0.11	0.02	+/-0.01	-0.3		-0.09	-0.30	<0.1	0.07	-0.07	0.17	-0.29	0.11	0.1	-0.12	0.07	-0.09	0.15	-0.05	-0.17	-0.02	-0.13	-0.32
Gas Flow Rate	l/hr	-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	-0.2		-0.2	-0.2	-0.4	-0.4	<0.1	-0.1	<0.1	-0.1	0.3	0.1	<0.1	0.5	0.1	0.4	0.2	0.2	0.1	0.2
										Blades broken							No gas tap or blades present	No gas tap or blades present								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV1 - GV53)

Sampling Location	**GV53**

Determinand	**Units**					(Sep Mon)	(Dec Mon)																			
Date monitored	-	24/02/10	09/03/10	19/04/10	02/06/10	07/10/10	11/01/11	01/04/11	20/06/11	02/09/11	05/12/11	06/03/12	04/06/12	10/09/12	10/12/12	27/03/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	14:20	14:20	16:43	10:41	12:50			9:35	09:24:00	12:50	10:19	10:42	10:46	15:48	12:01	14:12	12:06	13:15	13:54	14:12	14:06	13:43	10:48	12:32	09:39
Methane	% vol	2.80	<0.10	1.0	0.2	<0.1	<0.1	0.9	<0.1	3.10	<0.1	<0.1	<0.1	<0.1	0.10	3	2.2	<0.1	0.9	<0.1	<0.1	0.9	<0.1	1.5	0.1	<0.1
Carbon Dioxide	% vol	2.30	0.40	2.3	1.8	0.9	0.5	0.5	1.3	3.90	0.80	1.10	<0.1	0.40	0.10	3.9	3.5	0.5	3.1	0.2	2.3	1.6	0.1	2.3	0.1	<0.1
Oxygen	% vol	19.90	21.20	18.9	19.5	19.8	20.6	16.9	19.5	17.30	20.90	20.10	21.00	20.40	20.90	16.6	16.9	20.7	17.4	21.2	17.8	19.3	22.1	18.7	21.6	21.6
Atmospheric Pressure	mbars	990	1028	1011	1011	1010	999	986	1007	999	993	1016	1011	996.00	1026.00	1017	1011	1011	1012	1004	1012	1010	1006	1008	1007	1001
Gas Pressure	mbars	0.06	-0.04	0.08	0.1	-0.02	+/-0.01	-0.1	0.00	-0.01	<0.1	-0.50	-0.19	0.20	-0.03	0.15	0.14	-0.12	0.12	-0.24	0.19	-0.22	-0.05	-0.02	-0.41	-0.21
Gas Flow Rate	l/hr	0.3	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	0.0	<0.1	-0.3	-0.2	-0.7	-0.4	<0.1	0.3	<0.1	0.3	0.2	0.4	0.5	0.2	0.1	0.5	0.2	<0.1	-0.2
										Blades broken							Blades broken	Blades broken								



APPENDIX C:

C9 – Ness Farm Phase 2 Passive Gas Vent Monitoring

Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Methane

	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	07/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	15/06/15	08/12/15	16/06/16	Average	Maximum
GV54	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	0.10
GV55	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	0.10
GV56	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.13	0.20
GV57	<0.1	<0.1	0.3	<0.1	<0.1	0.2	0.2	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.18	0.30
GV58	0.8	0.5	5.7	<0.1	<0.1	3.6	3.9	0.6	<0.1	<0.1	<0.1	0.1	0.3	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	1.4	0.9	<0.1	<0.1	1.63	5.70
GV59	0.4	<0.1	2.7	<0.1	<0.1	1.1	1.9	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.4	0.3	<0.1	<0.1	0.79	2.70
GV60	0.5	<0.1	1.5	<0.1	0.1	1.3	1.9	<0.1	<0.1	<0.1	<0.1	0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	0.3	<0.1	<0.1	0.72	1.90
GV61	2.5	0.1	10.2	<0.1	0.2	2.6	14.7	1	<0.1	0.2	<0.1	0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	3.6	0.7	<0.1	<0.1	3.02	14.70
GV62	0.5	<0.1	0.9	<0.1	<0.1	0.3	1.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	0.1	<0.1	<0.1	0.43	1.10
GV63	0.1	<0.1	0.1	<0.1	<0.1	0.2	0.4	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	<0.1	<0.1	0.19	0.40
GV64	0.1	<0.1	0.5	<0.1	<0.1	0.3	0.2	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.24	0.50
GV65	0.2	0.1	0.3	<0.1	0.1	0.2	1	<0.1	<0.1	<0.1	<0.1	0.3	12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	<0.1	1.45	12.00
GV66	<0.1	<0.1	0.2	<0.1	<0.1	0.3	0.2	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.17	0.30
GV67	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	0.10
GV68	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.10	0.10
GV69	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	1.5	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	0.38	1.50
GV70	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.13	0.20
GV71	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.10	0.10
GV72	1.0	<0.1	11.3	0.2	<0.1	0.4	3.4	0.7	<0.1	<0.1	<0.1	0.1	1.4	<0.1	1.2	1.6	<0.1	0.1	<0.1	2.8	0.8	0.1	<0.1	1.79	11.30
GV73	0.3	0.6	0.5	0.5	0.1	0.3	0.9	0.4	<0.1	0.1	0.10	0.1	0.2	<0.1	0.3	0.2	0.1	0.2	<0.1	<0.1	0.3	<0.1	<0.1	0.31	0.90
GV74	1.9	2.8	3.1	0.4	0.1	0.5	3.1	2.1	<0.1	<0.1	0.30	0.1	0.7	<0.1	0.5	0.5	<0.1	0.1	<0.1	1.7	1	0.1	<0.1	1.12	3.10
GV75	6.2	2.7	7.1	0.2	0.1	2	5.3	7.2	<0.1	1	1.60	0.1	3.9	0.2	0.8	0.9	0.1	0.1	<0.1	7.7	3.5	0.8	<0.1	2.58	7.70
GV76	0.7	0.5	1.2	0.5	0.5	1.1	0.9	0.3	0.10	3.2	0.40	0.1	0.3	0.3	1.8	<0.1	0.1	0.1	0.1	0.9	0.7	<0.1	<0.1	0.69	3.20
GV77	<0.1	<0.1	0.2	<0.1	0.1	0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.2	0.1	<0.1	<0.1	0.14	0.20
GV78	0.2	<0.1	0.4	0.1	0.1	0.2	0.2	0.2	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.3	0.1	<0.1	<0.1	0.17	0.40
GV79	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.3	<0.1	<0.1	<0.1	0.14	0.30
GV80	0.1	<0.1	0.2	<0.1	0.1	0.4	0.3	0.2	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.5	0.1	<0.1	<0.1	0.20	0.50
GV81	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.16	0.40
GV82	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.10	0.10
GV83	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.12	0.20
GV84	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.3	<0.1	<0.1	<0.1	0.14	0.30
GV85	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.3	<0.1	<0.1	<0.1	0.15	0.30
GV86	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.7	0.1	<0.1	<0.1	0.24	0.70
GV87	0.2	0.3	0.5	0.5	0.4	0.9	0.5	0.4	0.20	<0.1	0.30	0.1	0.2	<0.1	0.1	<0.1	0.1	0.1	0.3	0.4	0.4	<0.1	0.1	0.32	0.90
GV88	0.8	1.5	0.6	0.4	0.3	1.2	0.6	0.3	0.30	1.5	0.30	0.1	0.4	0.1	<0.1	<0.1	0.1	0.1	0.1	0.6	1	<0.1	<0.1	0.54	1.50
GV89	0.9	0.7	<0.1	0.6	0.4	1.4	0.6	0.4	0.20	1.4	0.50	0.1	0.6	0.3	0.2	<0.1	0.1	0.2	0.2	1	1.4	<0.1	<0.1	0.59	1.40
GV90	0.2	0.1	0.8	<0.1	0.1	0.8	0.2	0.1	<0.1	0.2	0.10	0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.3	0.1	<0.1	<0.1	0.23	0.80
GV91	0.7	0.4	<0.1	0.9	0.1	0.6	1.4	0.9	<0.1	1.1	0.10	0.1	0.8	<0.1	0.2	<0.1	0.1	0.1	<0.1	1.3	1.3	<0.1	0.2	0.61	1.40
GV92	4.5	4.0	<0.1	3.4	3	6.3	16.3	8.7	1.50	3.8	8.30	0.1	5.8	1.7	3.9	2.2	0.1	0.3	<0.1	11.8	4.1	7.4	3.1	4.78	16.30
GV93	2.2	5.6	2.4	1.4	1.3	4.1	4.1	2.5	0.60	1.2	0.80	0.1	2.2	0.2	0.6	0.6	0.1	0.2	<0.1	1.7	2.9	0.3	1.2	1.65	5.60
GV94	0.1	0.1	3	0.3	0.3	0.3	1.2	0.3	<0.1	<0.1	<0.1	<0.1	0.6	<0.1	<0.1	<0.1	0.1	0.1	<0.1	1.2	0.6	<0.1	<0.1	0.63	3.00
GV95	3.7	0.4	<0.1	<0.1	2.1	1.1	3.6	<0.1	<0.1	<0.1	2.50	0.1	2.6	<0.1	6.2	3.3	0.1	0.1	0.1	4.9	6.3	1.2	0.9	2.31	6.30
GV96	<0.1	0.1	<0.1	0.9	0.1	0.3	<0.1	1.1	<0.1	<0.1	0.10	<0.1	0.5	<0.1	<0.1	0.3	0.1	0.1	<0.1	6.3	1	<0.1	<0.1	0.91	6.30
GV97	0.2	0.3	0.3	0.1	0.1	<0.1	1	0.4	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.6	0.5	<0.1	<0.1	0.30	1.00
GV98	0.4	0.1	0.3	0.3	0.4	<0.1	0.7	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.4	0.7	<0.1	<0.1	0.34	0.70
GV99	<0.1	<0.1	0.3	0.5	0.1	0.2	0.5	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.22	0.50
GV100																									
GV101	0.5	0.7	0.5	0.3	0.3	0.2	<0.1	0.1	<0.1	0.6	0.10	0.1	<0.1	0.2	<0.1	<0.1	0.1	0.2	0.1	0.1	1	<0.1	0.3	0.32	1.00
GV102	6.8	17.9	8.7	3.7	2.8	4.6	1.6	1.3	<0.1	0.1	1.60	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	3.54	17.90
GV103	11.1	26.9	14.2	6.6	10	8	12.1	8.9	9.50	12.7	7.50	0.1	11.1	10.9	3	15.7	0.1	4.5	11.8	7.2	7.7	1.9	5.6	9.00	26.90
GV104	0.2	0.1	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.23	1.00
GV105	2.0	1.9	3	0.6	1.2	1.2	2	1.5	0.20	1.1	0.80	0.1	0.4	0.6	0.2	0.1	0.1	0.1	0.4	0.1	0.3	<0.1	<0.1	0.85	3.00
GV106	1.5	2.2	1	0.5	0.4	0.8	1.7	0.2	0.30	0.6	0.30	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	0.71	2.20
GV107	<0.1	<0.1	<0.1	1.5	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.9	<0.1	<0.1	<0.1	0.65	1.50
GV108	22.7	37.6	14.6	11.9	13.6	19.4	17.7	12.7	2.80	9.1	8.10	0.2	62.6	10.7	5.9	9	0.1	7.9	8.9	6.1	15.1	6	4.4	13.35	62.60
GV109	9.5	14.2	14.3	10.2	14.2	8.9	12.8	8.1	8.30	10.9	6.00	<0.1	5.5	0.3	8.3	4.7	0.1	1.4	0.5	0.6	0.2	<0.1	<0.1	6.95	14.30
GV110	0.8	3.1	1.4	0.7	0.6	0.8	0.6	0.2	0.10	0.2	0.20	<0.1	<0.1	0.2	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.65	3.10
GV111	8.9	28.0	21.2	17.8	13.7	8.6	14.4	10.6	19.80	22.9	7.70	<0.1	9.3	11.3	3.6	2.3	0.4	4.7	2	4.1	3.9	2.1	3.1	10.02	28.00
GV112	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.2	0.8	0.1	0.4	0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	0.40	1.20
GV113	5.7	8.9	24	8.1	5.3	5.8	13.7	6.1	0.20	11.5	2.50	<0.1	<0.1	4.8	1.7	2.3	0.1	1.6	3.1	6	6.3	4	6.7	6.11	24.00
GV114	1.8	<0.1	1.5	1.7	2.4	<0.1	1.2	0.4	0.50	4.4	0.80	<0.1	0.9	<0.1	5.8	0.2	0.1	0.8	0.5	0.9	3.1	0.1	3.2	1.59	5.80
GV115	<0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	0.10
GV116	8.4	18.0		10.4	9	16.2	10.9	13.3	21.10	16.6	14.30	<0.1	9.1	9.4	10	3.6	0.1	6.9	6.8	7.4	4.8	3.8	1.7	9.61	21.10
GV117	<0.1	<0.1	0	<0.1	0.3	0.1	0.3	0.5	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.19	0.50
GV118	0.2	0.2	0.4	0.2	0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.17	0.40
GV119	25.5	25.0	26.9	19.6	13.8	10.8	15.9	14.7	14.70	19.6	15.20	<0.1	17.5	17	11.5	8.8	0.5	9.6	<0.1	8	16.8	7.6	13.8	14.90	26.90
GV120	0.1	<0.1	0.8	0.2	0.7	0.6	0.7	0.6	0.30	0.8	0.80	<0.1	<0.1	0.2	0.3	<0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.43	0.80
GV121	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.10	0.10
GV122	0.5	0.4	<0.1	1.8	0.6	0.5	0.5	0.6	0.30	0.9	0.70	<0.1	0.1	<0.1	0.1	<0.1	0.1	0.1	0.2	0.1	0.3	<0.1	<0.1	0.46	1.80
GV123	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.14	0.30
GV124	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.10	0.10
GV125	1.7	<0.1	1.4	0.6	<0.1	<0.1	3.2	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1	0.93	3.20
GV126	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.10	0.10
GV127	<0.1	1.4	10.4	2.3	0.5	8.8	1.5	0.9	<0.1	2.8	<0.1	0.1	1.1	1.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	3	<0.1	<0.1	2.83	10.40
GV128	<0.1	0.0	<0.1	0.2	0.2	0.6	0.4	0.2	<0.1	0.1	<0.1	0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.21	0.60
GV129	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.20	0.40
GV130	<0.1	1.2	1.5	1.2	0.1	0.8	<0.1	<0.1	<0.1	<0.1	0.10	0.1	<0.1	0.5	0.6	<0.1	0.1	<0.1	<0.1	2.4	<0.1	0.4	<0.1	0.75	2.40
GV131	0.9	0.6	1.4	0.8	0.3	1	0.7	1.1	<0.1	0.4	0.10	0.1	0.3	<0.1	0.6	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.61	1.40
GV132	<0.1	<0.1	0.2	<0.1	0.1	0.1	0.2	0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.14	0.20
GV133	<0.1	<0.1	11.8	2.7	0.9	5.7	17.1	9.6	<0.1	16.4	0.80	1	4.4	1.7	2	1.7	0.1	1.5	6.6	2.3	<0.1	0.2	<0.1	4.81	17.10
GV134	0.9	<0.1	0.2	<0.1	0.1	0.4	1.4	0.2	<0.1	0.5	<0.1	0.1	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.44	1.40
GV135	0.3	<0.1	0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.16	0.30
GV136	0.4	0.5	0.5	0.6	0.2	1.3	0.3	0.4	<0.1	0.3	0.10	1	0.1	0.1	<0.1	0.2	0.1	0.1	0.1	0.2		<0.1	<0.1	0.36	1.30
GV137	0.9	10.7	10	7.7	3.9	4.2	5.5	5	1.80	3.8	0.90	0.1	2.9	2.5	2.3	0.9	0.1	0.9	0.9	0.8	<0.1	0.1	<0.1	3.14	10.70
GV138	<0.1	1.0	1.7	0.2	0.6	1.7	1.3	0.6	<0.1	2.9	0.70	0.1	0.7	0.5	0.4	0.1	<0.1	0.2	<0.1	0.3	<0.1	<0.1	<0.1	0.81	2.90
GV139	<0.1	<0.1	<0.1	<0.1	0.1	0.2	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.12	0.20
GV140	0.2	2.2	1.6	0.5	0.3	0.7	5.3	1	<0.1	2.8	0.30	<0.1	0.6	0.7	0.2	<0.1	0.1	<0.1	0.5	0.1	<0.1	<0.1	<0.1	1.07	5.30
GV141	0.3	<0.1	1.8	0.6	0.6	0.5	0.4	0.6	0.20	1.7	0.70	<0.1	0.3	0.7	0.1	<0.1	0.1	0.2	<0.1	0.1	<0.1	<0.1	<0.1	0.56	1.80
GV142	0.3	0.4	0.4	0.2	0.1	0.4	0.3	0.4	0.40	0.5	0.30	<0.1	<0.1	0.3	<0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.29	0.50
GV143	5.3	7.3	16	5.9	4	8.4	11.6	0.4	11.40	13.9	3.40	<0.1	5.1	4.7	3.5	<0.1	0.1	4	<0.1	4.2	0.4	<0.1	<0.1	6.09	16.00

0 - 10%	
10 - 20%	
20 - 30%	
30 - 40%	
40 - 60%	

Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Carbon Dioxide

	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	07/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	15/06/15	08/12/15	16/06/16	Average	Maximum
GV54	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	0.1	0.10	0.10
GV55	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.2	<0.1	<0.1	<0.1	0.2	0.1	<0.1	0.1	0.12	0.20
GV56	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	0.1	<0.1	0.2	0.1	<0.1	0.1	0.14	0.30
GV57	<0.1	<0.1	0.3	<0.1	<0.1	0.1	0.3	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	0.4	0.1	<0.1	0.1	0.16	0.40
GV58	0.7	0.5	1.9	<0.1	<0.1	2.8	2.8	0.6	<0.1	<0.1	<0.1	<0.1	0.3	0.1	0.1	0.1	<0.1	<0.1	<0.1	1.8	0.9	<0.1	0.1	0.98	2.80
GV59	0.3	<0.1	1.2	<0.1	<0.1	0.9	1.4	0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	0.1	0.1	<0.1	0.1	<0.1	0.5	0.3	<0.1	0.1	0.42	1.40
GV60	0.4	0.1	1.1	<0.1	<0.1	1	1.4	0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	0.1	0.2	<0.1	<0.1	<0.1	0.7	0.3	<0.1	0.1	0.45	1.40
GV61	1.8	0.3	3.5	<0.1	0.2	1.7	8.4	1.3	<0.1	0.1	<0.1	<0.1	0.4	0.1	0.1	0.1	<0.1	<0.1	<0.1	2.5	0.7	<0.1	0.1	1.42	8.40
GV62	0.4	0.1	0.6	<0.1	<0.1	0.2	0.8	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	0.6	0.2	<0.1	0.1	0.28	0.80
GV63	0.1	0.1	0.1	<0.1	<0.1	0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.2	<0.1	<0.1	<0.1	0.5	0.4	<0.1	0.1	0.19	0.50
GV64	0.1	0.1	0.2	<0.1	<0.1	0.2	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	0.3	0.1	<0.1	0.1	0.15	0.30
GV65	0.2	0.3	0.3	<0.1	<0.1	0.2	0.9	0.1	<0.1	<0.1	<0.1	0.3	16.2	0.1	0.1	0.2	<0.1	<0.1	<0.1	0.7	0.2	0.1	0.1	1.33	16.20
GV66	<0.1	<0.1	0.2	<0.1	<0.1	0.2	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	0.3	0.3	<0.1	0.1	0.19	0.30
GV67	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	0.1	0.11	0.20
GV68	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.4	0.2	<0.1	0.1	0.17	0.40
GV69	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.3	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.6	0.2	<0.1	0.1	0.36	1.30
GV70	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.3	0.2	<0.1	0.1	0.18	0.30
GV71	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.4	0.2	<0.1	0.1	0.18	0.40
GV72	0.7	<0.1	4.0	0.4	<0.1	0.2	2.3	0.7	<0.1	<0.1	<0.1	<0.1	1.4	<0.1	1	1.6	<0.1	0.1	<0.1	1.6	0.7	0.3	0.1	1.08	4.00
GV73	0.3	0.7	0.4	0.2	<0.1	0.3	0.7	0.4	0.10	<0.1	0.10	<0.1	0.4	<0.1	0.5	0.5	<0.1	0.2	<0.1	0.1	0.4	0.3	0.1	0.34	0.70
GV74	1.4	1.1	1.7	0.3	0.1	0.4	2	1.8	<0.1	<0.1	0.30	<0.1	0.7	<0.1	0.6	0.6	<0.1	0.1	<0.1	1.4	0.9	0.3	0.1	0.81	2.00
GV75	3.4	1.8	3.3	0.1	<0.1	1.1	2.8	4.3	<0.1	0.5	1.10	<0.1	2.3	0.4	0.8	0.8	<0.1	0.1	<0.1	4	2.2	0.8	0.1	1.66	4.30
GV76	0.5	0.4	0.8	0.2	0.2	0.7	0.5	0.2	0.10	2.1	0.20	<0.1	0.3	0.4	1.5	0.2	<0.1	0.1	0.1	0.6	0.6	0.1	0.3	0.48	2.10
GV77	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.1	0.1	<0.1	0.1	<0.1	0.2	0.1	<0.1	0.1	0.13	0.20
GV78	0.1	<0.1	0.2	0.2	<0.1	0.1	0.3	0.2	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	0.1	0.1	<0.1	0.1	<0.1	0.3	0.1	0.1	0.1	0.16	0.30
GV79	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	0.2	0.1	0.1	0.1	0.12	0.20
GV80	0.1	<0.1	0.1	<0.1	<0.1	0.3	0.3	0.2	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.1	0.1	<0.1	0.1	<0.1	0.4	0.1	0.1	0.1	0.17	0.40
GV81	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	0.2	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.1	0.1	<0.1	0.1	<0.1	0.2	0.1	<0.1	0.1	0.15	0.20
GV82	0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.1	0.1	<0.1	0.1	<0.1	0.1	0.1	0.1	0.1	0.12	0.20
GV83	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	0.1	0.10	0.10
GV84	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	0.3	0.1	<0.1	0.1	0.13	0.30
GV85	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	0.5	0.1	<0.1	0.1	0.15	0.50
GV86	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	0.7	0.2	<0.1	0.1	0.23	0.70
GV87	0.2	0.2	0.4	0.2	0.2	0.5	0.4	0.4	0.10	<0.1	0.20	<0.1	0.2	0.1	0.3	0.2	<0.1	0.1	0.2	0.3	0.3	0.1	0.4	0.25	0.50
GV88	0.5	0.5	0.3	0.2	0.1	0.7	0.4	0.3	0.20	0.8	0.20	<0.1	0.3	0.2	0.2	0.2	<0.1	0.1	0.1	0.4	0.7	0.1	0.1	0.31	0.80
GV89	0.6	0.5	<0.1	0.8	0.1	0.8	0.4	0.3	0.10	0.7	0.30	<0.1	0.4	0.3	0.3	0.2	<0.1	0.2	0.2	0.6	0.8	0.1	0.1	0.39	0.80
GV90	0.1	0.1	0.4	<0.1	<0.1	0.4	0.2	0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	0.2	0.1	<0.1	0.1	<0.1	0.2	0.1	0.1	0.1	0.17	0.40
GV91	0.4	0.3	<0.1	0.4	<0.1	0.4	0.8	0.7	<0.1	0.7	0.10	<0.1	0.5	<0.1	0.3	0.2	<0.1	0.1	<0.1	0.7	0.9	0.1	0.4	0.44	0.90
GV92	2.3	1.4	<0.1	3	1.4	3.2	7.8	4.5	0.90	1.9	4.50	<0.1	2.8	1	2.1	2.1	<0.1	0.3	0.1	3.8	2.2	4	1.6	2.55	7.80
GV93	1.3	2.2	1.0	0.7	0.9	2.1	2.2	1.6	0.40	0.7	0.40	<0.1	1.1	0.2	0.5	0.6	<0.1	0.2	0.1	1	1.7	0.3	1	0.96	2.20
GV94	0.2	0.1	1.1	0.4	0.1	0.2	0.9	0.3	<0.1	<0.1	<0.1	0.1	0.4	0.1	0.1	0.1	<0.1	0.1	<0.1	0.7	0.5	0.2	0.1	0.32	1.10
GV95	3.2	0.3	<0.1	<0.1	1.3	0.7	2.6	<0.1	<0.1	<0.1	1.60	<0.1	1.5	<0.1	1.8	2.3	<0.1	0.1	0.3	0.1	4.4	1.2	0.9	1.49	4.40
GV96	<0.1	0.1	<0.1	1	0.1	0.2	<0.1	1	<0.1	<0.1	0.30	<0.1	0.5	<0.1	0.1	0.5	<0.1	0.1	<0.1	1.2	0.9	<0.1	0.1	0.47	1.20
GV97	0.4	0.4	0.2	<0.1	<0.1	<0.1	1.8	0.7	<0.1	<0.1	<0.1	<0.1	0.5	0.1	0.3	0.3	<0.1	0.1	<0.1	0.7	0.5	0.1	0.1	0.44	1.80
GV98	0.6	0.3	0.6	0.3	0.2	0.1	0.9	0.2	<0.1	<0.1	0.10	0.1	0.2	<0.1	0.2	0.3	<0.1	0.1	<0.1	0.5	0.6	0.1	0.2	0.31	0.90
GV99	<0.1	<0.1	0.2	0.3	0.1	0.1	0.3	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	0.1	0.14	0.30
GV100																									
GV101	0.3	0.0	0.2	0.1	0.1	0.1	0.1	0.1	<0.1	0.3	0.10	<0.1	0.1	0.2	0.1	0.2	<0.1	0.2	0.1	<0.1	0.6	<0.1	0.4	0.18	0.60
GV102	3.3	0.0	3.2	1.6	1.2	2	0.8	0.8	<0.1	<0.1	0.70	<0.1	0.1	0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	0.1	0.89	3.30
GV103	5.0	8.2	5.3	3.4	4	3.5	5.3	4.4	4.20	5.5	3.10	<0.1	5.1	5	1.2	8.1	<0.1	5.1	4	2	3.7	<0.1	1.6	4.39	8.20
GV104	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	0.1	0.10	0.10
GV105	1.1	1.0	1.0	0.2	0.6	0.6	1.1	0.9	0.10	0.5	0.50	<0.1	0.3	0.5	0.3	0.3	<0.1	0.1	0.4	0.1	0.2	<0.1	0.1	0.50	1.10
GV106	1.0	0.6	0.4	0.3	0.2	0.4	1	0.2	0.20	0.3	0.20	<0.1	0.2	0.1	0.1	0.1	<0.1	0.2	<0.1	<0.1	0.1	<0.1	0.2	0.32	1.00
GV107	<0.1	<0.1	<0.1	0.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	0.1	0.17	0.70
GV108	11.7	13.4	6.2	5.4	6.2	9	7.9	6.7	1.50	4.1	3.70	<0.1	29.5	4.9	3	4.9	<0.1	8.7	3.7	3.1	7.7	3.8	2	7.00	29.50
GV109	4.4	3.1	4.9	4.7	6.3	4	5.8	4.1	3.50	4.7	2.80	0.1	3.1	0.1	2.2	2.5	<0.1	1.4	0.2	0.3	0.2	<0.1	0.1	2.79	6.30
GV110	0.4	0.9	0.6	0.3	0.2	0.4	0.4	0.2	<0.1	0.1	0.10	0.01	0.1	0.2	0.1	0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	0.1	0.24	0.90
GV111	4.1	4.7	8.6	8.8	6.3	4	6.9	5.4	9.00	10.3	3.70	1	4.2	4.7	1.7	1.4	0.1	4.7	0.9	1.5	1.9	1.1	1.5	4.20	10.30
GV112	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.7	0.5	0.2	0.4	<0.1	0.4	<0.1	0.1	0.1	<0.1	0.1	0.29	0.70
GV113	2.8	1.3	9.8	4.5	4.1	2.8	6.4	3.1	0.10	4.8	1.30	0.1	0.1	2.1	1.1	1.4	0.3	1.6	1.5	1.6	3.1	2.3	3.3	2.59	9.80
GV114	1.1	<0.1	0.6	1	1.1	<0.1	0.6	0.2	0.30	1.9	0.40	0.1	0.6	0.1	2.8	0.3	0.1	0.8	0.2	0.5	1.6	0.3	1.7	0.78	2.80
GV115	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	0.1	0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	0.1	0.11	0.20
GV116	3.8	6.8		4.6	4.1	7.9	5.3	6.8	9.40	7.1	6.80	<0.1	4.2	4	4.4	1.9	<0.1	7.3	2.8	2.9	2.1	2.2	1	4.77	9.40
GV117	<0.1	<0.1	0	<0.1	0.1	0.1	0.4	0.4	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	0.1	0.14	0.40
GV118	0.1	0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	0.1	0.11	0.20
GV119	11.8	12.0	12.6	8.9	6.3	4.9	7.8	7.5	6.60	8.8	6.80	0.1	7.7	7.1	4.9	4.2	0.2	10.3	<0.1	3.5	7.4	3.4	5.8	6.75	12.60
GV120	0.1	<0.1	0.6	0.1	0.6	0.5	0.6	0.5	0.20	0.4	0.60	0.1	0.2	0.2	0.5	0.2	<0.1	0.1	0.1	0.1	0.1	<0.1	0.1	0.30	0.60
GV121	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	0.1	0.10	0.10
GV122	0.5	0.3	<0.1	1.9	0.5	0.3	0.6	0.5	0.40	0.7	0.60	0.1	0.3	<0.1	0.3	0.2	<0.1	0.1	0.2	0.1	0.3	<0.1	0.1	0.42	1.90
GV123	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	0.1	0.14	0.30
GV124	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.2	0.2	<0.1	0.1	<0.1	0.4	0.1	<0.1	0.1	0.17	0.40
GV125	1.3	<0.1	0.7	0.5	<0.1	<0.1	2.3	<0.1	<0.1	0.2	<0.1	<0.1	0.2	0.1	0.3	0.4	<0.1	0.1	<0.1	0.1	0.4	<0.1	0.1	0.52	2.30
GV126	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.2	0.10	<0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.1	0.2	<0.1	0.1	0.13	0.20
GV127	<0.1	2.2	6.9	3.1	0.8	5.3	1.1	2.9	<0.1	2.3	0.60	<0.1	1.6	1.1	0.1	0.1	<0.1	<0.1	0.1	0.1	2.9	0.1	0.1	1.74	6.90
GV128	<0.1	0.4	<0.1	0.1	0.1	0.6	0.3	0.2	<0.1	0.3	0.10	<0.1	0.1	0.1	0.2	0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	0.1	0.19	0.60
GV129	0.4	0.2	<0.1	<0.1	<0.1	<0.1	0.6	0.2	<0.1	0.1	0.10	<0.1	0.2	0.1	0.1	0.2	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	0.19	0.60
GV130	<0.1	1.2	0.9	0.5	<0.1	0.5	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	0.1	0.4	0.6	0.1	<0.1	<0.1	<0.1	0.1	0.1	0.6	0.1	0.41	1.20
GV131	0.7	0.5	1.2	0.5	0.1	0.7	0.6	1.1	0.10	0.2	0.10	<0.1	0.4	0.1	1	0.2	<0.1	<0.1	<0.1	0.2	0.1	0.1	0.1	0.42	1.20
GV132	<0.1	<0.1	0.1	<0.1	<0.1	0.1	0.2	0.2	<0.1	0.2	<0.1	<0.1	0.2	0.1	0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	0.13	0.20
GV133	<0.1	<0.1	5.3	2.1	0.8	2.9	8.3	7	0.10	8.7	0.80	<0.1	2.7	1.2	0.7	1.5	<0.1	1.5	4	1.2	0.1	0.5	0.1	2.61	8.70
GV134	1.0	0.2	0.2	<0.1	<0.1	0.3	1.1	0.3	<0.1	0.5	0.30	<0.1	0.6	0.3	0.1	0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	0.1	0.34	1.10
GV135	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.2	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	0.12	0.20
GV136	0.2	0.3	0.3	0.2	0.1	0.7	0.3	0.3	<0.1	0.1	0.10	<0.1	0.2	0.2	0.1	0.4	<0.1	0.1	0.1	0.2		0.1	0.1	0.22	0.70
GV137	0.6	0.0	2.2	3.3	1.9	2	2.7	2.8	1.00	1.7	0.50	<0.1	1.6	1.2	1.1	0.8	<0.1	0.9	0.5	0.5	0.1	0.3	0.1	1.23	3.30
GV138	<0.1	1.3	1.0	0.1	0.5	1	0.8	0.6	<0.1	1.7	0.70	<0.1	0.6	0.4	0.5	0.3	<0.1	0.2	<0.1	0.2	0.1	0.2	0.1	0.57	1.70
GV139	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	<0.1	<0.1	0.20	<0.1	0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	0.1	0.13	0.20
GV140	0.2	1.6	0.5	0.2	0.1	0.5	3.2	0.9	<0.1	1.8	0.30	<0.1	0.6	0.5	0.4	0.1	<0.1	<0.1	0.6	0.2	<0.1	<0.1	0.1	0.69	3.20
GV141	0.2	<0.1	1.1	0.3	0.3	0.3	0.3	0.5	0.10	1	0.40	<0.1	0.4	0.4	0.3	0.1	<0.1	0.2	<0.1	0.1	<0.1	0.1	0.1	0.34	1.10
GV142	0.2	0.4	0.3	0.1	<0.1	0.2	0.2	0.4	0.30	0.3	0.20	<0.1	0.2	0.2	0.1	0.1	<0.1	0.1	<0.1	0.1	<0.1	0.1	0.1	0.20	0.40
GV143	2.7	1.6	7.8	2.9	1.9	4.1	5.5	0.3	5.70	6.4	1.60	<0.1	2.7	3.7	2	0.1	<0.1	4	<0.1	2.2	0.3	0.1	0.1	2.79	7.80

0 - 10%	
10 - 20%	
20 - 30%	
30 - 40%	
40 - 60%	

All results

Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

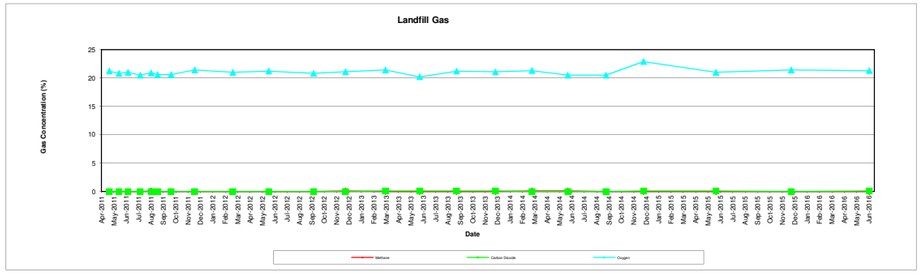
Flow Rate

	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	07/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	15/06/15	08/12/15	16/06/16	Average	Maximum	Minimum
GV54	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	0.1	0.1	0.2	0.1	<0.1	<0.1	<0.1	0.7	0.2	0.1	0.3	0.16	0.70	-0.10
GV55	<0.1	0.1	<0.1	0.1	<0.1	<0.1	-0.2	<0.1	<0.1	<0.1	-0.20	<0.1	0.3	0.1	0.2	0.1	<0.1	<0.1	<0.1	0.1	0.3	0.1	0.2	0.10	0.30	-0.20
GV56	<0.1	0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	-0.1	<0.1	0.3	0.1	0.2	0.2	0.4	0.14	0.40	-0.10
GV57	<0.1	<0.1	<0.1	0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	0.2	<0.1	<0.1	<0.1	0.2	0.1	0.1	0.3	0.13	0.30	-0.10
GV58	<0.1	<0.1	<0.1	<0.1	-0.1	-0.2	<0.1	<0.1	0.2	<0.1	-0.10	<0.1	<0.1	0.1	0.2	<0.1	<0.1	<0.1	0.3	0.1	0.2	0.1	0.3	0.10	0.30	-0.20
GV59	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	0.1	0.2	0.1	-0.1	<0.1	0.2	0.1	0.2	0.1	0.4	0.12	0.40	-0.10
GV60	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	-0.10	<0.1	<0.1	0.1	0.2	0.1	-0.1	<0.1	-0.1	<0.1	0.3	0.2	0.3	0.08	0.30	-0.10
GV61	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	0.1	<0.1	<0.1	0.3	0.3	0.2	0.1	0.4	0.19	0.40	-0.10
GV62	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	0.2	<0.1	<0.1	0.2	0.1	0.3	0.1	0.2	0.16	0.30	-0.10
GV63	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	0.10	0.1	<0.1	0.1	0.1	0.1	-0.1	<0.1	0.2	0.1	0.3	0.1	0.1	0.09	0.30	-0.10
GV64	-0.2	<0.1	<0.1	<0.1	-0.1	-0.1	<0.1	-0.1	-0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	0.1	-0.1	<0.1	0.2	0.1	-0.1	0.2	0.2	0.02	0.20	-0.20
GV65	<0.1	<0.1	<0.1	<0.1	-0.2	-0.2	<0.1	<0.1	-0.3	-0.1	N/A	<0.1	<0.1	0.2	0.1	0.1	-0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.4	0.00	0.40	-0.30
GV66	<0.1	-0.2	<0.1	<0.1	<0.1	-0.1	-0.2	-0.1	<0.1	<0.1	<0.1	<0.1	-0.3	0.1	0.1	0.1	<0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.01	0.20	-0.30
GV67	<0.1	-0.3	<0.1	<0.1	-0.1	-0.1	<0.1	<0.1	-0.1	<0.1	<0.1	0.1	<0.1	0.1	0.2	0.1	-0.1	0.1	<0.1	<0.1	<0.1	0.2	0.3	0.03	0.30	-0.30
GV68	<0.1	-0.3	<0.1	<0.1	<0.1	<0.1	-0.2	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.2	0.3	0.2	-0.1	0.1	<0.1	0.1	<0.1	0.1	0.1	0.06	0.30	-0.30
GV69	<0.1	-0.2	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	-0.2	<0.1	<0.1	<0.1	<0.1	-0.1	0.2	0.1	<0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.04	0.20	-0.20
GV70	<0.1	-0.2	<0.1	0.1	<0.1	-0.2	<0.1	<0.1	-0.2	<0.1	<0.1	<0.1	<0.1	0.1	0.2	0.2	-0.1	0.1	-0.3	0.1	0.1	0.1	0.3	0.02	0.30	-0.30
GV71	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	0.1	<0.1	0.1	0.2	0.1	<0.1	0.1	-0.5	0.2	0.1	0.2	0.3	0.08	0.30	-0.50
GV72	<0.1	0.3	<0.1	0.1	<0.1	-0.2	<0.1	-0.1	<0.1	<0.1	0.20	<0.1	<0.1	0.2	0.2	<0.1	-0.1	<0.1	0.1	0.1	0.3	0.1	0.3	0.12	0.30	-0.20
GV73	<0.1	0.2	<0.1	0.2	<0.1	-0.1	-0.3	-0.3	<0.1	<0.1	<0.1	-0.1	0.1	0.1	0.3	<0.1	-0.1	<0.1	-0.1	0.3	0.1	0.1	0.3	0.05	0.30	-0.30
GV74	<0.1	0.3	<0.1	0.1	-0.1	-0.1	-0.2	<0.1	<0.1	<0.1	-0.10	-0.1	<0.1	0.2	0.3	0.1	-0.4	<0.1	-0.2	0.3	0.2	0.1	0.3	0.04	0.30	-0.40
GV75	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	-0.1	-0.1	<0.1	0.1	<0.1	-0.1	0.3	0.1	<0.1	<0.1	<0.1	0.2	0.3	0.2	0.3	0.12	0.30	-0.10
GV76	<0.1	-0.7	<0.1	0.1	<0.1	<0.1	-0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	0.2	-1.4	0.2	0.1	0.4	-0.07	0.40	-1.40
GV77	<0.1	-0.5	<0.1	0.1	<0.1	-0.1	0.1	<0.1	<0.1	<0.1	0.10	-0.1	<0.1	0.1	0.2	0.1	<0.1	<0.1	0.2	-0.4	0.3	0.1	0.1	0.02	0.30	-0.50
GV78	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	-0.2	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	0.1	0.2	0.1	<0.1	<0.1	-0.2	0.1	0.3	0.2	0.3	0.08	0.30	-0.20
GV79	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.20	<0.1	<0.1	0.1	0.2	0.1	<0.1	<0.1	0.2	-0.3	0.1	0.2	0.1	0.10	0.20	-0.30
GV80	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	-0.1	<0.1	-0.3	<0.1	-0.20	<0.1	<0.1	0.1	0.2	0.3	<0.1	<0.1	0.3	-0.4	0.1	0.2	0.3	0.05	0.30	-0.40
GV81	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	0.2	0.1	0.1	0.2	<0.1	<0.1	0.3	0.2	0.4	0.1	0.4	0.18	0.40	-0.10
GV82	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	-0.1	<0.1	-0.6	<0.1	<0.1	<0.1	0.1	0.1	0.2	0.1	<0.1	0.1	0.3	<0.1	0.2	0.2	0.3	0.08	0.30	-0.60
GV83	<0.1	-0.2	<0.1	0.1	<0.1	-0.1	-0.1	<0.1	<0.1	<0.1	-0.10	<0.1	0.1	0.2	0.2	0.2	<0.1	0.1	0.3	0.2	0.3	0.2	0.2	0.11	0.30	-0.20
GV84	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.2	0.1	0.3	0.2	<0.1	<0.1	0.3	0.2	0.1	0.1	0.3	0.19	0.30	0.10
GV85	<0.1	<0.1	<0.1	0.1	<0.1	-0.1	-0.2	<0.1	<0.1	<0.1	<0.1	-0.3	0.2	0.2	0.1	0.2	<0.1	0.1	<0.1	0.1	0.5	0.1	0.2	0.09	0.50	-0.30
GV86	<0.1	-0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.10	<0.1	<0.1	<0.1	0.2	0.2	0.2	0.1	<0.1	0.1	-0.1	<0.1	0.4	0.1	0.2	0.10	0.40	-0.20
GV87	0.3	0.3	<0.1	-0.1	<0.1	-0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.3	0.2	0.2	0.2	<0.1	0.1	0.1	0.4	0.3	0.2	0.2	0.18	0.40	-0.10
GV88	0.1	0.2	<0.1	0.1	<0.1	-0.1	-0.3	0.1	-0.2	<0.1	-0.20	<0.1	0.4	0.2	0.3	0.2	<0.1	0.1	-0.5	0.3	0.4	0.2	0.4	0.09	0.40	-0.50
GV89	0.2	0.2	<0.1	0.1	<0.1	-0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	0.3	0.2	0.1	<0.1	0.1	-0.4	0.2	0.3	0.2	0.2	0.15	0.50	-0.40
GV90	0.2	0.3	<0.1	0.2	<0.1	-0.2	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.5	0.1	0.2	0.1	<0.1	0.1	<0.1	0.3	0.4	0.1	0.2	0.19	0.50	-0.20
GV91	<0.1	0.2	<0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	<0.1	0.3	<0.1	<0.1	0.1	<0.1	0.4	0.3	0.1	0.2	0.24	0.50	0.10
GV92	<0.1	0.1	<0.1	0.1	-0.1	-0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.4	<0.1	0.2	0.1	<0.1	0.1	-0.4	<0.1	0.3	0.1	0.2	0.09	0.40	-0.40
GV93	<0.1	0.1	<0.1	-0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	-0.1	0.4	0.2	0.2	<0.1	<0.1	0.1	-0.1	0.7	0.4	0.1	0.2	0.18	0.70	-0.10
GV94	0.1	0.1	<0.1	0.1	0.1	<0.1	0.2	<0.1	<0.1	<0.1	-0.10	<0.1	0.4	0.1	0.1	<0.1	<0.1	0.1	<0.1	0.3	0.3	0.1	0.2	0.15	0.40	-0.10
GV95	0.2	0.2	<0.1	-0.3	-0.1	<0.1	0.2	0.3	0.2	<0.1	<0.1	<0.1	0.3	0.1	0.3	-0.1	<0.1	-0.1	-0.3	0.6	0.4	0.1	0.2	0.13	0.60	-0.30
GV96	0.1	0.1	<0.1	0.3	<0.1	<0.1	0.5	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.3	<0.1	0.1	<0.1	0.5	0.2	0.4	0.3	0.30	0.70	0.10
GV97	0.2	0.2	<0.1	0.3	<0.1	<0.1	0.5	0.2	-0.2	<0.1	-0.10	<0.1	0.3	0.1	0.2	0.2	<0.1	<0.1	-0.3	0.5	0.1	0.1	0.2	0.16	0.50	-0.30
GV98	0.1	<0.1	<0.1	0.3	<0.1	<0.1	-1.1	-0.6	0.4	<0.1	N/A	0.1	0.4	0.1	0.2	0.1	<0.1	0.1	0.1	0.3	0.3	0.3	0.2	0.08	0.40	-1.10
GV99	0.2	0.3	<0.1	<0.1	-0.1	<0.1	-0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.3	0.1	0.3	0.2	<0.1	<0.1	-0.1	-0.4	0.3	0.2	0.4	0.12	0.40	-0.40
GV100																										
GV101	0.1	0.2	<0.1	0.1	<0.1	0.2	0.1	<0.1	-0.2	<0.1	<0.1	-0.1	0.1	0.1	0.4	0.2	<0.1	0.1	<0.1	-0.2	0.3	<0.1	0.3	0.11	0.40	-0.20
GV102	0.3	0.6	<0.1	0.2	<0.1	0.2	0.1	<0.1	-0.2	<0.1	<0.1	-0.1	0.3	<0.1	0.3	0.1	<0.1	0.1	<0.1	-0.1	0.3	<0.1	0.4	0.18	0.60	-0.20
GV103	0.3	0.4	<0.1	0.1	<0.1	-0.3	0.1	<0.1	-0.2	<0.1	<0.1	-0.1	0.3	<0.1	0.3	0.2	<0.1	0.1	0.1	-0.1	0.3	-0.6	0.4	0.08	0.40	-0.60
GV104	0.1	0.6	<0.1	0.1	<0.1	-0.3	0.1	0.4	<0.1	<0.1	<0.1	-0.1	0.4	0.1	0.3	0.3	<0.1	0.2	0.2	<0.1	0.2	-0.2	0.3	0.17	0.60	-0.30
GV105	0.2	0.3	<0.1	0.2	<0.1	-0.2	0.3	-0.2	<0.1	<0.1	<0.1	<0.1	0.4	0.2	0.2	<0.1	0.1	0.1	0.2	<0.1	0.4	-0.6	0.2	0.12	0.40	-0.60
GV106	0.1	-0.3	<0.1	-0.1	<0.1	-0.4	-0.2	-0.2	-0.5	<0.1	<0.1	<0.1	0.4	0.1	0.2	0.1	<0.1	0.1	<0.1	-0.2	0.3	-0.2	0.1	-0.04	0.40	-0.50
GV107	0.2	-0.3	<0.1	0.1	<0.1	<0.1	-0.6	<0.1	0.1	<0.1	<0.1	<0.1	0.2	0.1	0.1	<0.1	<0.1	0.1	0.3	-0.8	0.3	0.3	0.2	0.02	0.30	-0.80
GV108	0.2	0.1	<0.1	0.1	<0.1	0.2	<0.1	<0.1	0.1	-0.1	<0.1	-0.6	0.1	0.1	0.2	0.3	<0.1	0.1	<0.1	<0.1	0.3	0.3	0.1	0.10	0.30	-0.60
GV109	0.1	0.3	<0.1	0.1	<0.1	0.2	-0.2	<0.1	0.1	<0.1	<0.1	<0.1	0.4	0.1	0.2	0.2	<0.1	0.1	-0.1	0.1	0.3	<0.1	0.3	0.15	0.40	-0.20
GV110	<0.1	0.5	<0.1	0.1	<0.1	0.2	0.1	<0.1	-0.1	<0.1	<0.1	<0.1	0.3	0.1	<0.1	0.2	<0.1	0.1	<0.1	0.1	0.2	0.3	0.3	0.18	0.50	-0.10
GV111	0.1	-0.4	<0.1	0.1	<0.1	<0.1	-0.1	0.1	<0.1	<0.1	<0.1	0.1	0.5	0.1	<0.1	0.1	<0.1	<0.1	-0.4	0.1	0.2	<0.1	0.2	0.05	0.50	-0.40
GV112	<0.1	0.5	<0.1	0.2	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	0.1	0.2	0.4	<0.1	0.1	0.2	-0.2	0.3	0.4	0.2	0.24	0.50	-0.20
GV113	0.4	0.4	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.10	<0.1	0.4	0.2	0.2	0.1	<0.1	0.1	0.1	0.1	0.3	0.3	0.2	0.22	0.40	0.10
GV114	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	-0.5	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	0.1	0.1	<0.1	0.1	0.2	0.1	0.2	0.3	0.2	0.12	0.40	-0.50
GV115	0.1	0.2	<0.1	-0.1	<0.1	0.1	-0.7	-0.4	<0.1	0.1	-0.1	<0.1	0.3	0.2	0.2	0.1	<0.1	0.1	0.4	0.1	0.3	0.2	0.2	0.07	0.40	-0.70
GV116	0.2	0.2	<0.1	0.1	<0.1	<0.1	-0.4	-0.2	<0.1	0.1	<0.1	<0.1	0.1	0.1	0.1	-0.1	<0.1	0.1	0.3	<0.1	0.1	0.3	0.3	0.09	0.30	-0.40
GV117	0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	-0.1	0.1	<0.1	<0.1	0.1	<0.1	0.2	0.1	<0.1	0.1	-0.3	0.1	0.1	0.4	0.2	0.09	0.40	-0.30
GV118	0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	-0.1	-0.1	<0.1	0.10	<0.1	0.2	0.1	0.1	0.2	<0.1	0.1	0.1	-0.3	0.2	0.3	0.5	0.11	0.50	-0.30
GV119	0.2	0.2	<0.1	0.1	<0.1	<0.1	0.2	<0.1	-0.2	<0.1	<0.1	-0.1	0.2	0.2	0.2	0.1	-0.1	0.1	0.1	0.2	0.3	0.1	0.4	0.13	0.40	-0.20
GV120	0.1	0.1	<0.1	0.2	<0.1	<0.1	0.1	<0.1	-0.2	<0.1	<0.1	<0.1	0.1	0.1	0.2	0.1	<0.1	0.1	<0.1	-0.1	0.3	0.3	0.4	0.13	0.40	-0.20
GV121	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	-0.1	<0.1	<0.1	<0.1	0.2	-0.1	0.3	0.2	<0.1	0.1	0.1	0.3	0.2	0.1	0.3	0.15	0.30	-0.10
GV122	0.2	0.2	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.1	0.2	0.1	0.2	<0.1	<0.1	0.1	0.3	-0.4	0.3	0.4	0.3	0.17	0.40	-0.40
GV123	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	0.1	<0.1	0.3	0.2	<0.1	<0.1	-0.1	<0.1	0.2	<0.1	0.2	0.23	1.00	-0.10
GV124	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	-0.1	0.3	0.1	<0.1	-0.1	-0.1	0.1	0.1	0.2	0.3	0.09	0.30	-0.10
GV125	<0.1	0.2	<0.1	<0.1	<0.1	0.1	0.2	<0.1	-0.2	-0.1	<0.1	<0.1	0.1	-0.1	0.2	0.1	<0.1	-0.2	<0.1	0.1	0.2	0.1	0.2	0.06	0.20	-0.20
GV126	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	-0.1	<0.1	-0.10	<0.1	0.1	-0.1	0.1	0.1	<0.1	0.2	0.2	-0.2	0.1	0.2	0.2	0.05	0.20	-0.20
GV127	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	-0.10	0.1	<0.1	-0.1	0.2	0.1	<0.1	0.2	0.2	<0.1	0.2	0.2	0.3	0.11	0.30	-0.10
GV128	0.1	0.2	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	0.2	0.1	-0.4	0.1	0.3	0.2	0.09	0.30	-0.40
GV129	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	0.1	-0.1	<0.1	<0.1	0.2	0.1	<0.1	0.2	0.2	-0.3	0.1	0.4	0.2	0.09	0.40	-0.30
GV130	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.3	0.1	<0.1	0.1	-0.2	0.3	0.5	0.1	0.2	0.22	0.60	-0.20
GV131	<0.1	-0.4	<0.1	<0.1	<0.1	-0.1	-0.1	-0.2	0.3	<0.1	-0.20	<0.1	<0.1	0.1	0.3	0.1	<0.1	0.1	0.2	-0.1	0.1	0.2	0.3	0.04	0.30	-0.40
GV132	0.1	<0.1	<0.1	0.1	-0.2	<0.1	-0.2	0.1	0.2	-0.1	<0.1	0.2	<0.1	0.1	0.3	0.2	<0.1	0.1	0.1	-0.8	0.2	0.2	0.3	0.05	0.30	-0.80
GV133	0.1	0.5	<0.1	<0.1	<0.1	0.1	0.2	<0.1	-0.3	-0.2	<0.1	-0.1	0.1	0.1	0.3	0.5	-0.3	0.2	0.5	-0.4	0.2	0.5	0.3	0.13	0.50	-0.40
GV134	0.1	0.2	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.2	<0.1	0.3	0.1	-0.1	0.1	<0.1	-0.5	0.3	0.4	0.2	0.12	0.40	-0.50
GV135	0.2	0.2	<0.1	<0.1	0.1	-0.1	-0.7	-0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	0.2	0.1	<0.1	0.1	0.2	-0.2	0.2	0.3	0.2	0.06	0.30	-0.70
GV136	0.2	0.3	<0.1	-0.1	-0.2	<0.1	0.2	0.1	<0.1	<0.1	0.20	<0.1	0.3	0.2	0.3	0.3	<0.1	0.1	-0.1	0.2		0.2	<0.1	0.15	0.30	-0.20
GV137	0.2	0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	<0.1	0.10	-0.1	0.4	<0.1	0.2	0.2	<0.1	0.1	0.3	0.1	0.1	0.3	0.2	0.17	0.40	-0.10
GV138	0.2	0.3	<0.1	0.1	0.1	0.1	-0.2	0.2	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.2	0.2	-0.1	0.1	0.3	-0.4	0.2	0.1	<0.1	0.09	0.30	-0.40
GV139	0.1	0.2	<0.1	<0.1	<0.1	0.2	0.2	<0.1	-0.1	0.1	0.1	<0.1	0.1	-0.1	0.2	0.1	-0.1	0.1	0.1	-0.2	0.1	0.7	0.3	0.12	0.70	-0.20
GV140	<0.1	0.5	<0.1	<0.1	<0.1	0.5	<0.1	<0.1	-0.2	<0.1	<0.1	<0.1	0.1	-0.3	0.1	0.2	<0.1	0.1	0.2	-0.1	<0.1	0.4	0.5	0.17	0.50	-0.30
GV141	<0.1	<0.1	<0.1	-0.1	<0.1	-0.1	<0.1	0.3	-0.3	<0.1	<0.1	<0.1	0.1	<0.1	0.2	0.1	<0.1	0.1	0.2	0.1	<0.1	0.3	0.2	0.09	0.30	-0.30
GV142	<0.1	0.3	<0.1	<0.1	<0.1	-0.2	-0.1	<0.1	<0.1	0.1	-0.2	<0.1	<0.1	<0.1	0.2	0.2	0.1	0.1	0.2	0.1	<0.1	0.2	0.3	0.10	0.30	-0.20
GV143	0.2	0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.2	<0.1	<0.1	0.1	<0.1	0.1	0.1	0.4	0.3	0.16	0.40	-0.05

Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	GV54

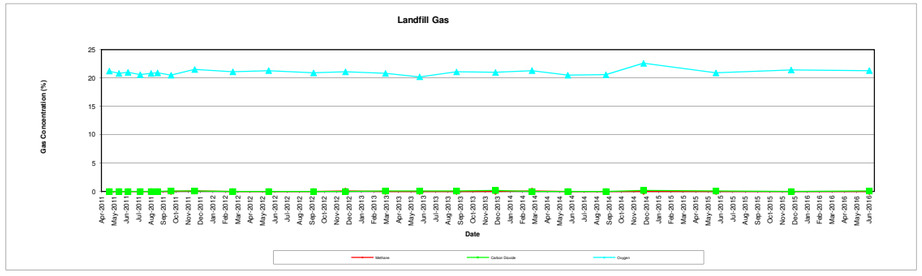
Determinand	Units																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	9.42	9.23	9:37	11:10	09:12	09:14	10:45	09:12	10:09	14:41	10:24	10:20	14:52	10:20	11:17	10:27	11:13	10:55	11:24	10:35	11:12	10:59	12:14
Methane	% vol	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1
Oxygen	% vol	21.2	20.8	21.0	20.50	20.90	20.60	20.60	21.40	21.00	21.20	20.80	21.10	21.4	20.2	21.2	21.1	21.3	20.5	20.5	22.9	21	21.4	21.3
Atmospheric Pressure	mbars	1012	1007	1007	1015	1015	1000	998	1004	1025	1020	1015	1002	995	1027	1013	1018	1029	1011	1018	1005	1009	1003	1002
Gas Pressure	mbars	-0.10	0.00	0.00	-0.12	0.04	0.12	-0.06	<0.1	<0.01	0.17	0.38	-0.15	-0.07	0.1	-0.09	0.29	-0.15	-0.31	0.01	<0.01	-0.02	0.03	-0.1
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	0.1	0.1	0.2	0.1	<0.1	<0.1	<0.1	0.7	0.2	0.1	0.3



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV55**

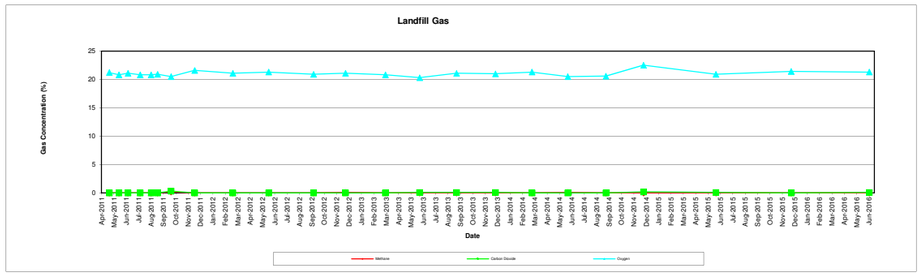
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	9.55	9.3	9:42	11:12	09:16	09:26	10:48	09:18	10:13	11:13	10:36	10:24	15:23	10:27	11:14	10:31	11:10	10:52	11:21	10:59	11:09	10:41	12:10
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	0.10	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.2	<0.1	<0.1	<0.1	0.2	0.1	<0.1	0.1
Oxygen	% vol	21.2	20.8	21.0	20.60	20.80	20.90	20.50	21.50	21.10	21.30	20.90	21.10	20.8	20.2	21.1	21	21.3	20.5	20.6	22.6	20.9	21.4	21.3
Atmospheric Pressure	mbars	1012	1007	1007	1015	1014	999	998	1003	1024	1019	1014	1002	995	1026	1012	1016	1029	1010	1018	1003	1008	1002	1001
Gas Pressure	mbars	0.00	0.00	0.00	-0.12	0.07	<0.01	-0.24	0.18	0.17	-0.19	0.30	-0.15	-0.08	0.27	-0.22	0.21	-0.09	-0.38	0.05	-0.07	0.07	<0.01	0.12
Gas Flow Rate	l/hr	<0.1	0.1	<0.1	0.10	<0.1	<0.1	-0.2	<0.1	<0.1	<0.1	-0.20	<0.1	0.3	0.1	0.2	0.1	<0.1	<0.1	<0.1	0.1	0.3	0.1	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV56**

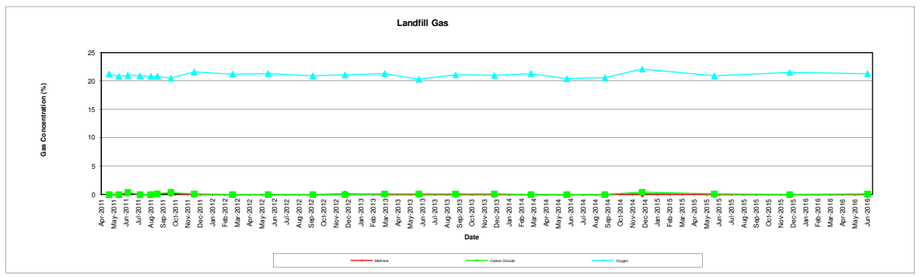
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	10.00	9.34	9:47	11:22	09:20	09:29	10:55	09:24	10:21	11:16	10:50	10:28	15:26	10:30	11:11	10:34	11:07	10:49	11:17	11:16	11:06	11:16	12:06
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.20	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	0.1
Oxygen	% vol	21.2	20.8	21.1	20.80	20.80	20.90	20.50	21.60	21.10	21.30	20.90	21.10	20.8	20.3	21.1	21	21.3	20.5	20.6	22.5	20.9	21.4	21.3
Atmospheric Pressure	mbars	1012	1007	1007	1015	1013	999	997	1002	1023	1020	1013	1002	995	1026	1012	1016	1029	1010	1018	1002	1008	1002	1001
Gas Pressure	mbars	-0.03	0.00	0.00	-0.17	0.01	0.02	-0.05	0.15	0.22	-0.12	0.22	-0.15	0.11	0.29	-0.19	-0.17	-0.08	-0.32	<0.01	-0.38	0.03	0.1	0.02
Gas Flow Rate	l/hr	<0.1	0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	-0.1	<0.1	0.3	0.1	0.2	0.2	0.4
					Tap missing	Tap not in place but re-attached																		



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV57**

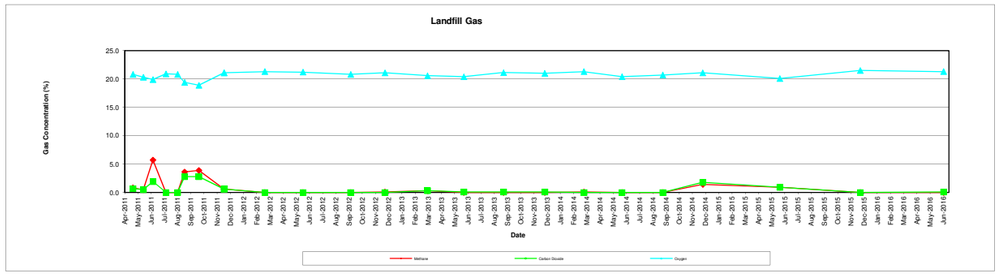
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	10.05	9.37	9:50	11:26	09:23	09:32	10:58	09:38	10:29	11:19	10:54	10:32	14:57	10:34	11:08	10:37	11:05	10:46	11:14	11:44	11:02	11:21	12:03
Methane	% vol	<0.1	<0.1	0.3	<0.1	<0.1	0.20	0.20	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	0.3	<0.1	<0.1	0.10	0.30	0.10	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	0.4	0.1	<0.1	0.1
Oxygen	% vol	21.2	20.8	21.0	20.90	20.80	20.80	20.50	21.60	21.20	21.30	20.90	21.10	21.3	20.3	21.1	21	21.3	20.4	20.6	22.1	20.9	21.5	21.3
Atmospheric Pressure	mbars	1012	1007	1007	1014	1013	999	996	1002	1023	1019	1013	1001	993	1026	1011	1016	1028	1010	1017	999	1007	1003	1000
Gas Pressure	mbars	-0.04	0.00	0.00	-0.24	0.02	-0.02	-0.10	0.16	0.16	-0.13	0.18	-0.09	-0.1	-0.05	-0.15	-0.09	-0.09	-0.33	0.02	-0.12	<0.01	0.03	0.03
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	0.2	<0.1	<0.1	<0.1	0.2	0.1	0.1	0.3



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV58**

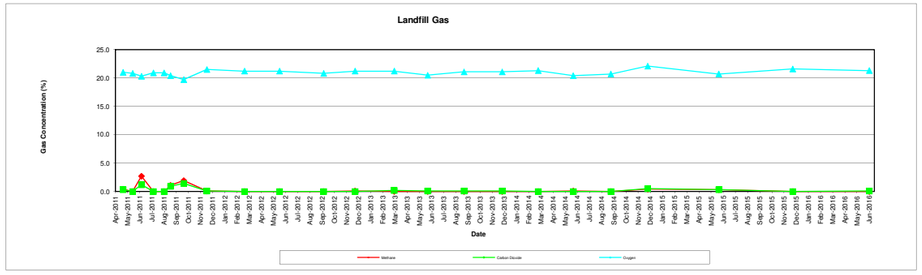
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	10.09	9.41	9:54	11:30	09:26	09:36	11:01	09:41	09:41	10:33	11:22	10:57	10:36	15:30	10:37	11:05	10:40	11:02	10:43	11:11	11:49	10:59	11:25	12:00
Methane	% vol	0.8	0.5	5.7	<0.1	<0.1	3.60	3.90	0.60	0.60	<0.1	<0.1	<0.1	0.10	0.3	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	1.4	0.9	<0.1	<0.1
Carbon Dioxide	% vol	0.7	0.5	1.9	<0.1	<0.1	2.80	2.80	0.60	0.60	<0.1	<0.1	<0.1	<0.1	0.3	0.1	0.1	0.1	<0.1	<0.1	<0.1	1.8	0.9	<0.1	0.1
Oxygen	% vol	20.8	20.3	19.9	20.90	20.80	19.40	18.90	21.10	21.10	21.30	21.20	20.80	21.10	20.6	20.4	21.12	21	21.3	20.4	20.7	21.1	20.1	21.5	21.3
Atmospheric Pressure	mbars	1012	1007	1007	1014	1013	998	996	1002	1002	1023	1019	1013	1001	994	1026	1011	1016	1028	1010	1017	999	1008	1002	1000
Gas Pressure	mbars	-0.03	0.00	0.00	0.01	0.01	-0.05	-0.11	0.12	0.12	0.18	-0.10	0.24	-0.15	0.07	-0.02	0.07	-0.12	-0.12	-0.34	0.03	-0.19	<0.01	0.03	<0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	-0.1	-0.2	<0.1	<0.1	<0.1	0.2	<0.1	-0.10	<0.1	<0.1	0.1	0.2	<0.1	<0.1	<0.1	0.3	0.1	0.2	0.1	0.3
												OK													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV59**

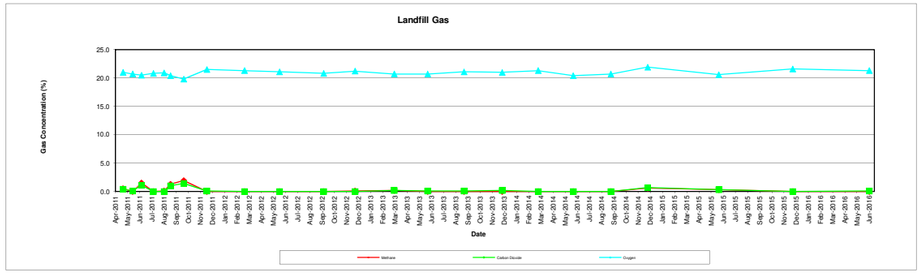
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	10.14	9.44	9:57	11:34	09:29	09:39	11:04	09:45	10:36	11:25	11:01	10:39	15:00	10:40	11:02	10:43	10:59	10:40	11:08	11:53	10:52	11:30	11:57
Methane	% vol	0.4	<0.1	2.7	<0.1	<0.1	1.10	1.90	0.10	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.4	0.3	<0.1	<0.1
Carbon Dioxide	% vol	0.3	<0.1	1.2	<0.1	<0.1	0.90	1.40	0.10	<0.1	<0.1	<0.1	<0.1	0.2	0.1	0.1	0.1	<0.1	<0.1	<0.1	0.5	0.3	<0.1	0.1
Oxygen	% vol	21.0	20.8	20.3	20.90	20.90	20.40	19.70	21.50	21.20	21.20	20.80	21.20	21.2	20.5	21.1	21.1	21.3	20.4	20.7	22.1	20.7	21.6	21.3
Atmospheric Pressure	mbars	1012	1007	1007	1014	1012	998	995	1002	1023	1019	1013	1002	993	1026	1011	1016	1028	1010	1017	998	1007	1002	1000
Gas Pressure	mbars	0.01	0.00	0.00	<0.01	0.03	-24.82	-0.11	0.16	0.10	-0.13	0.17	-0.12	0.17	-0.12	-0.12	-0.07	-0.1	-0.3	<0.01	-0.12	0.02	0.05	<0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.10	<0.1	0.1	0.2	0.1	-0.1	<0.1	0.2	0.1	0.2	0.1	0.4



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV60**

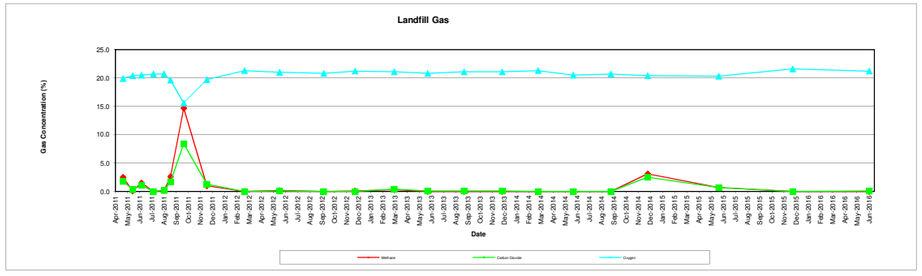
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	10.20	9.47	10:00	11:37	09:32	09:42	11:08	09:48	10:40	11:28	11:04	10:43	15:34	10:44	10:59	10:46	10:56	10:37	11:06	11:58	10:49	11:35	11:49
Methane	% vol	0.5	<0.1	1.5	<0.1	0.10	1.30	1.90	<0.1	<0.1	<0.1	<0.1	0.10	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	0.3	<0.1	<0.1
Carbon Dioxide	% vol	0.4	0.1	1.1	<0.1	<0.1	1.00	1.40	0.10	<0.1	<0.1	<0.1	<0.1	0.2	0.1	0.1	0.2	<0.1	<0.1	<0.1	0.7	0.3	<0.1	0.1
Oxygen	% vol	21.0	20.7	20.5	20.80	20.90	20.40	19.80	21.50	21.30	21.10	20.80	21.20	20.7	20.7	21.1	21	21.3	20.4	20.7	21.9	20.6	21.6	21.3
Atmospheric Pressure	mbars	1012	1007	1007	1014	1012	998	995	1002	1023	1018	1012	1001	994	1026	1011	1016	1028	1010	1017	998	1007	1002	1000
Gas Pressure	mbars	0.00	0.00	0.00	0.01	<0.01	-0.02	-0.14	0.15	0.11	-0.14	0.21	-0.12	0.13	-0.14	-0.21	0.02	-0.07	-0.28	-0.07	-0.27	0.02	0.05	0.05
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	-0.10	<0.1	<0.1	0.1	0.2	0.1	-0.1	<0.1	-0.1	<0.1	0.3	0.2	0.3
					Casing broken	Casing broken	Casing cracked	Casing cracked							Casing broken	Casing broken.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	GV61

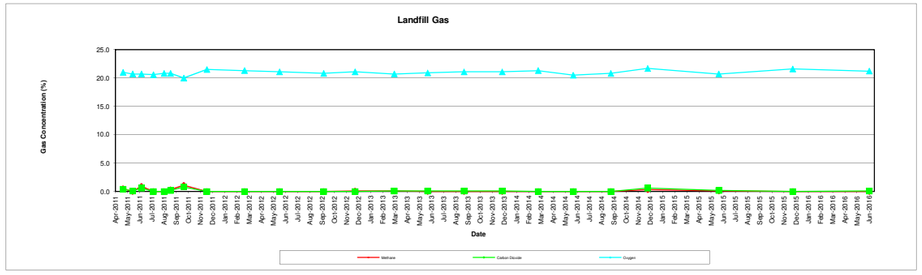
Determinand	Units																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	10.27	9.5	10:00	11:40	09:35	09:46	11:11	09:51	10:43	11:31	11:08	10:50	15:04	10:49	10:56	10:52	10:54	10:34	11:03	12:03	10:46	11:40	11:46
Methane	% vol	2.5	0.1	1.5	<0.1	0.20	2.60	14.70	1.00	<0.1	0.20	<0.1	0.10	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	3.1	0.7	<0.1	<0.1
Carbon Dioxide	% vol	1.8	0.3	1.1	<0.1	0.20	1.70	8.40	1.30	<0.1	0.10	<0.1	<0.1	0.4	0.1	0.1	0.1	<0.1	<0.1	<0.1	2.5	0.7	<0.1	0.1
Oxygen	% vol	19.9	20.4	20.5	20.70	20.70	19.60	15.60	19.70	21.30	21.00	20.80	21.20	21.1	20.8	21.1	21.1	21.3	20.5	20.7	20.4	20.3	21.6	21.2
Atmospheric Pressure	mbars	1012	1007	1007	1014	1012	998	995	1002	1023	1018	1012	1001	993	1026	1010	1016	1028	1009	1017	998	1007	1002	999
Gas Pressure	mbars	-0.01	0.00	0.00	0.01	-0.12	-0.05	-0.13	0.16	0.14	-0.13	0.21	-0.14	0.05	-0.09	0.03	-0.05	-0.04	-0.27	-0.02	-0.02	<0.01	-0.02	0.03
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	0.1	<0.1	<0.1	0.3	0.3	0.2	0.1	0.4



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV62**

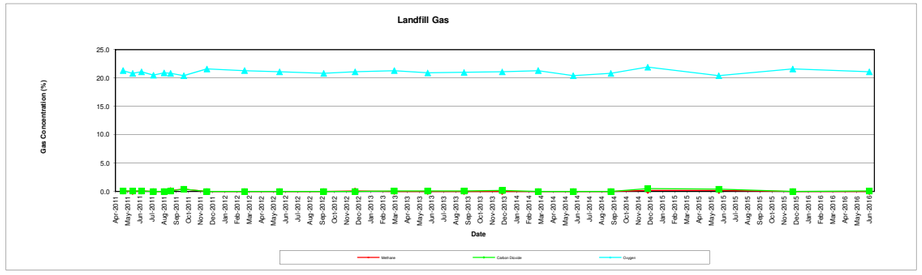
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	10.31	9.53	10:09	11:43	09:37	09:48	11:13	09:54	10:47	11:34	11:12	10:57	15:37	10:52	10:53	10:54	10:51	10:31	11:00	12:07	10:42	11:44	11:42
Methane	% vol	0.5	<0.1	0.9	<0.1	<0.1	0.30	1.10	<0.1	<0.1	<0.1	<0.1	0.10	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.4	0.1	0.6	<0.1	<0.1	0.20	0.80	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	0.6	0.2	<0.1	0.1
Oxygen	% vol	21.0	20.7	20.7	20.60	20.80	20.80	20.00	21.50	21.30	21.10	20.80	21.10	20.7	20.9	21.1	21.1	21.3	20.5	20.8	21.7	20.7	21.6	21.2
Atmospheric Pressure	mbars	1012	1007	1007	1014	1012	997	995	1002	1022	1018	1012	1001	994	1025	1011	1016	1028	1009	1017	997	1007	1001	1000
Gas Pressure	mbars	0.01	0.00	0.00	<0.01	0.01	-0.07	-0.14	0.14	0.16	-0.14	0.19	-0.14	0.06	-0.12	0.05	-0.07	-0.02	-0.21	0.08	-0.14	<0.01	0.03	0.05
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	0.2	<0.1	<0.1	0.2	0.1	0.3	0.1	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV63**

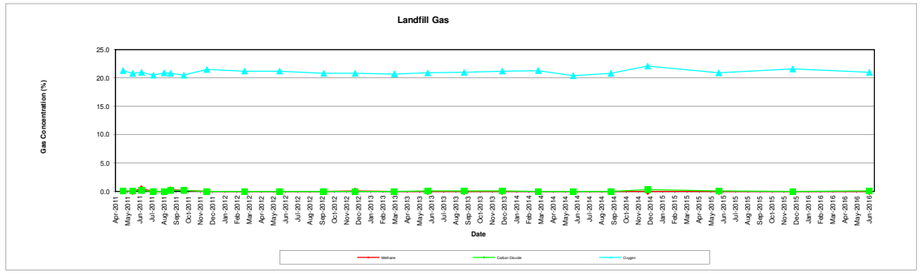
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	10.33	9.56	10:12	11:46	09:40	09:51	11:16	09:57	10:49	11:37	11:16	11:01	15:07	10:55	10:51	10:57	10:48	10:28	10:57	12:12	10:39	11:48	11:36
Methane	% vol	0.1	<0.1	0.1	<0.1	<0.1	0.20	0.40	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	<0.1	<0.1
Carbon Dioxide	% vol	0.1	0.1	0.1	<0.1	<0.1	0.10	0.40	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.2	<0.1	<0.1	<0.1	0.5	0.4	<0.1	0.1
Oxygen	% vol	21.3	20.8	21.1	20.50	20.90	20.80	20.40	21.60	21.30	21.10	20.80	21.10	21.3	20.9	21	21.1	21.3	20.4	20.8	21.9	20.4	21.6	21.1
Atmospheric Pressure	mbars	1012	1007	1007	1014	1012	997	995	1002	1022	1018	1012	1001	992	1025	1010	1015	1027	1009	1016	997	1006	1001	999
Gas Pressure	mbars	0.01	0.00	0.00	<0.01	0.01	-0.05	-0.17	0.13	0.09	-0.15	0.28	-0.15	0.07	-0.09	0.14	-0.02	<0.01	-0.22	0.04	-0.05	-0.09	0.03	0.14
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	0.10	0.10	<0.1	0.1	0.1	0.1	-0.1	<0.1	0.2	0.1	0.3	0.1	0.1



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV64**

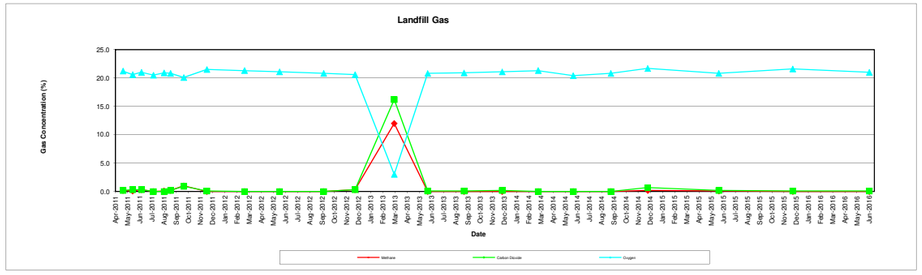
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	10.36	9.59	10:15	11:49	09:43	09:54	11:20	10:00	10:58	11:40	11:19	11:36	15:41	10:58	10:48	11:00	10:45	10:25	10:54	12:17	10:35	11:53	11:33
Methane	% vol	0.1	<0.1	0.5	<0.1	<0.1	0.30	0.20	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.1	0.1	0.2	<0.1	<0.1	0.20	0.20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	0.3	0.1	<0.1	0.1
Oxygen	% vol	21.3	20.8	21.0	20.50	20.90	20.80	20.50	21.50	21.20	21.20	20.80	20.80	20.7	20.9	21	21.2	21.3	20.4	20.8	22.1	20.9	21.6	21
Atmospheric Pressure	mbars	1012	1007	1007	1014	1012	997	994	1002	1022	1018	1012	1003	993	1025	1010	1015	1027	1009	1016	997	1006	1001	999
Gas Pressure	mbars	0.00	0.00	0.00	-0.02	0.01	-0.08	<0.01	0.12	-0.01	-0.14	0.23	-0.12	0.11	-0.1	0.14	0.02	-0.06	-0.2	0.05	0.09	0.05	-0.03	-0.03
Gas Flow Rate	l/hr	-0.2	<0.1	<0.1	<0.1	-0.1	-0.1	<0.1	-0.1	-0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	0.1	-0.1	<0.1	0.2	0.1	-0.1	0.2	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV65**

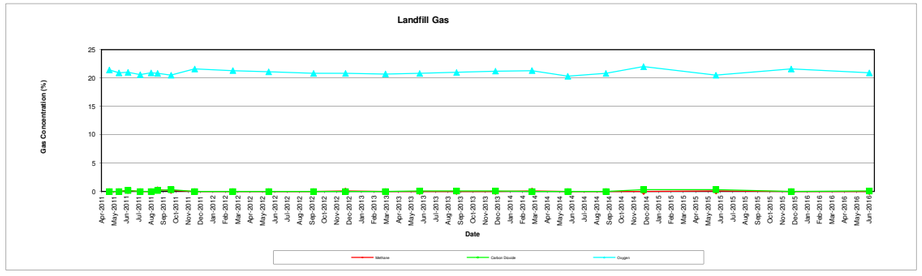
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	10.38	10.02	10:19	11:52	09:45	09:57	11:23	10:03	11:01	11:43	11:23	11:39	15:10	11:08	10:45	11:02	10:42	10:22	10:51	12:21	10:31	11:57	11:30
Methane	% vol	0.2	0.1	0.3	<0.1	0.10	0.20	1.00	<0.1	<0.1	<0.1	<0.1	0.30	12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.2	0.3	0.3	<0.1	<0.1	0.20	0.90	0.10	<0.1	<0.1	<0.1	0.30	16.2	0.1	0.1	0.2	<0.1	<0.1	<0.1	0.7	0.2	0.1	0.1
Oxygen	% vol	21.2	20.6	21.0	20.50	20.90	20.80	20.10	21.50	21.30	21.10	20.80	20.60	3	20.8	20.9	21.1	21.3	20.4	20.8	21.7	20.8	21.6	21
Atmospheric Pressure	mbars	1012	1007	1007	1013	1012	997	994	1001	1022	1018	1012	1003	992	1025	1010	1015	1028	1010	1016	997	1006	1001	999
Gas Pressure	mbars	0.00	0.00	0.00	-0.05	0.01	-37.32	-0.05	0.15	0.12	-0.23	0.17	-0.12	0.26	-0.03	0.1	0.03	<0.01	-0.2	0.08	-0.1	-0.02	-0.05	0.03
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	-0.2	-0.2	<0.1	<0.1	-0.3	-0.10	N/A	<0.1	<0.1	0.2	0.1	0.1	-0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.4
													Gas tap missing.		Casing broken	Casing broken.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV66**

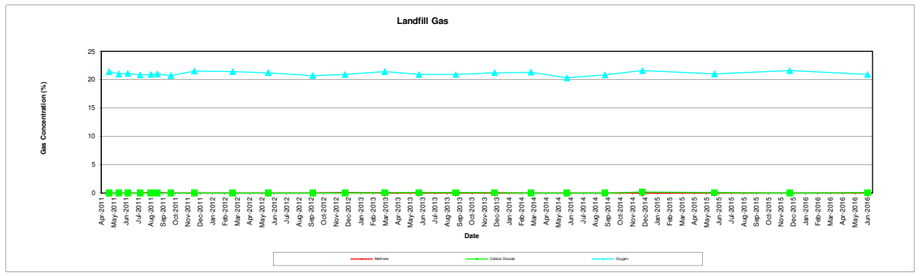
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	10.41	10.06	10:22	11:56	09:48	10:01	11:26	10:07	11:04	11:46	11:27	11:43	15:45	11:11	10:42	11:05	10:38	10:19	10:48	12:26	10:25	12:01	11:26
Methane	% vol	<0.1	<0.1	0.2	<0.1	<0.1	0.30	0.20	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	0.2	<0.1	<0.1	0.20	0.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	0.3	0.3	<0.1	0.1
Oxygen	% vol	21.4	20.9	21.0	20.60	20.90	20.80	20.50	21.60	21.30	21.10	20.80	20.80	20.7	20.8	21	21.2	21.3	20.3	20.8	22	20.5	21.6	20.9
Atmospheric Pressure	mbars	1012	1007	1007	1013	1012	997	994	1002	1023	1018	1012	1003	993	1025	1010	1015	1028	1010	1017	997	1006	1001	999
Gas Pressure	mbars	0.00	0.00	0.00	-0.04	0.01	-0.01	-0.06	0.12	0.10	-0.11	0.12	-0.14	0.04	0.02	0.02	0.03	-0.01	-0.18	0.04	<0.01	<0.01	0.02	-0.02
Gas Flow Rate	l/hr	<0.1	-0.2	<0.1	<0.1	<0.1	-0.1	-0.2	-0.1	<0.1	<0.1	<0.1	<0.1	-0.3	0.1	0.1	0.1	<0.1	0.1	0.1	0.2	0.1	0.1	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV67**

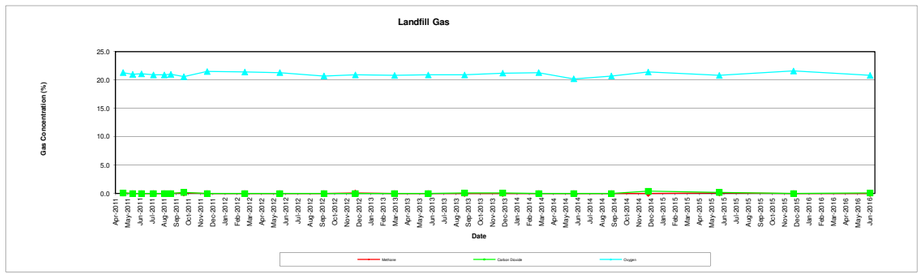
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	10.43	10.08	10:25	12:00	09:50	10:04	11:29	10:10	11:08	12:22	11:31	11:47	15:14	11:15	10:39	11:07	10:35	10:15	10:46	13:25	10:21	12:05	11:23
Methane	% vol	<0.1	<0.1	<0.1	<0.1	0.10	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	0.1
Oxygen	% vol	21.4	21.0	21.1	20.80	20.90	21.00	20.70	21.50	21.40	21.20	20.70	20.90	21.4	20.9	20.9	21.2	21.3	20.3	20.8	21.6	21	21.6	20.9
Atmospheric Pressure	mbars	1012	1007	1007	1013	1012	997	994	1002	1023	1018	1012	1003	992	1025	1010	1016	1028	1010	1017	992	1006	1001	999
Gas Pressure	mbars	0.51	0.00	0.00	-0.03	0.01	<0.01	0.02	0.12	0.07	-0.15	0.19	-0.18	0.12	0.14	0.02	0.05	-0.04	-0.16	-0.06	0.21	0.02	-0.02	0.02
Gas Flow Rate	l/hr	<0.1	-0.3	<0.1	<0.1	-0.1	-0.1	<0.1	<0.1	-0.1	<0.1	<0.1	0.10	<0.1	0.1	0.2	0.1	-0.1	0.1	<0.1	<0.1	<0.1	0.2	0.3



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV68**

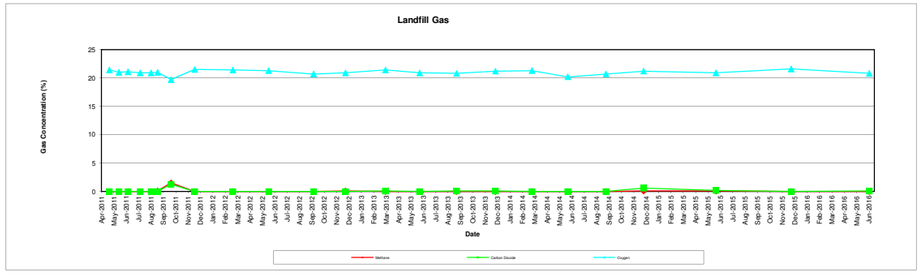
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	10.46	10.11	10:28	12:03	09:53	10:07	11:32	10:14	11:14	12:16	11:35	11:50	15:49	11:18	10:36	11:10	10:32	10:13	10:42	13:29	10:17	12:08	11:19
Methane	% vol	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.4	0.2	<0.1	0.1
Oxygen	% vol	21.3	21.0	21.1	20.90	20.90	21.00	20.60	21.50	21.40	21.30	20.70	20.90	20.8	20.9	20.9	21.2	21.3	20.2	20.7	21.4	20.8	21.6	20.8
Atmospheric Pressure	mbars	1012	1007	1007	1014	1012	997	994	1002	1022	1018	1012	1003	993	1023	1010	1016	1028	1010	1016	992	1006	1001	999
Gas Pressure	mbars	0.60	0.00	0.00	-0.04	0.01	-0.07	-0.10	0.13	0.10	-0.13	0.15	-0.14	0.06	0.15	-0.05	<0.01	<0.01	-0.17	-0.14	0.24	<0.01	-0.02	-0.02
Gas Flow Rate	l/hr	<0.1	-0.3	<0.1	<0.1	<0.1	<0.1	-0.2	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.2	0.3	0.2	-0.1	0.1	<0.1	0.1	<0.1	0.1	0.1



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV69**

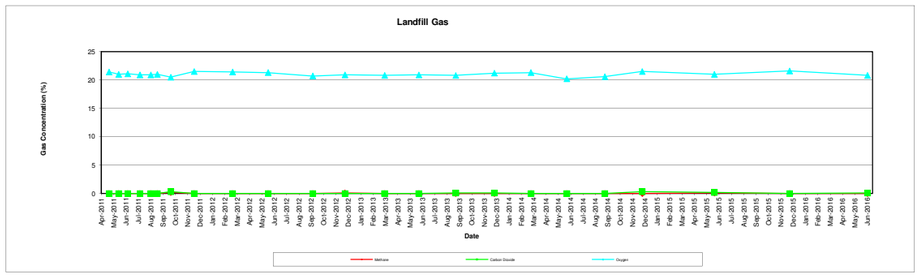
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	10.50	10.14	10:31	12:06	09:56	10:10	11:35	10:17	11:17	12:13	11:39	11:54	15:17	11:21	10:34	11:12	10:29	10:10	10:39	13:34	10:14	12:12	11:16
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	1.50	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.30	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.6	0.2	<0.1	0.1
Oxygen	% vol	21.4	21.0	21.1	20.90	20.90	21.00	19.70	21.50	21.40	21.30	20.70	20.90	21.4	20.9	20.8	21.2	21.3	20.2	20.7	21.2	20.9	21.6	20.8
Atmospheric Pressure	mbars	1012	1007	1007	1014	1012	997	994	1002	1022	1018	1012	1003	992	1025	1010	1016	1027	1010	1016	992	1006	1001	1003
Gas Pressure	mbars	0.01	0.00	0.00	-0.01	0.01	-0.03	0.01	0.12	<0.01	-0.07	0.16	-0.11	0.03	0.09	-0.05	0.03	<0.01	-0.14	0.09	-0.33	0.03	0.05	0.17
Gas Flow Rate	l/hr	<0.1	-0.2	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	-0.2	<0.1	<0.1	<0.1	<0.1	-0.1	0.2	0.1	<0.1	0.1	0.1	0.1	0.1	0.2	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV70**

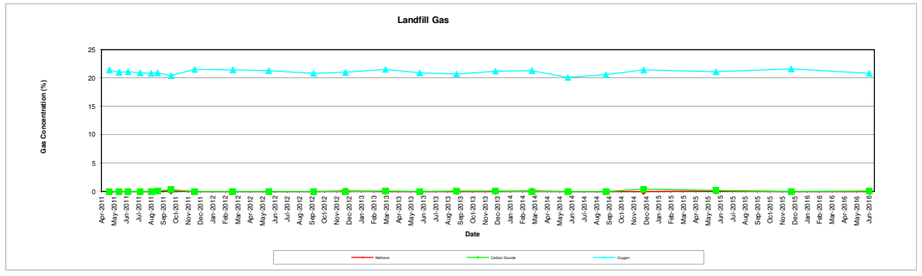
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	10.52	10.17	10:34	12:09	09:58	10:13	11:38	10:20	11:20	12:10	11:42	11:58	15:52	11:25	10:31	11:15	10:27	10:07	10:33	13:39	10:09	12:16	11:13
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.20	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.3	0.2	<0.1	0.1
Oxygen	% vol	21.4	21.0	21.1	20.90	20.90	21.00	20.50	21.50	21.40	21.30	20.70	20.90	20.8	20.9	20.8	21.2	21.3	20.2	20.6	21.5	21	21.6	20.8
Atmospheric Pressure	mbars	1012	1007	1007	1013	1012	997	994	1002	1023	1018	1012	1003	993	1025	1010	1016	1027	1010	1016	992	1005	1001	999
Gas Pressure	mbars	0.39	0.00	0.00	-0.02	-0.03	-0.03	-0.03	0.14	0.07	-0.17	0.12	-0.07	0.04	-0.48	-0.03	-0.05	-0.05	-0.16	0.03	-0.27	-0.05	-0.03	-0.38
Gas Flow Rate	l/hr	<0.1	-0.2	<0.1	0.1	<0.1	-0.2	<0.1	<0.1	-0.2	<0.1	<0.1	<0.1	<0.1	0.1	0.2	0.2	-0.1	0.1	-0.3	0.1	0.1	0.1	0.3



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV71**

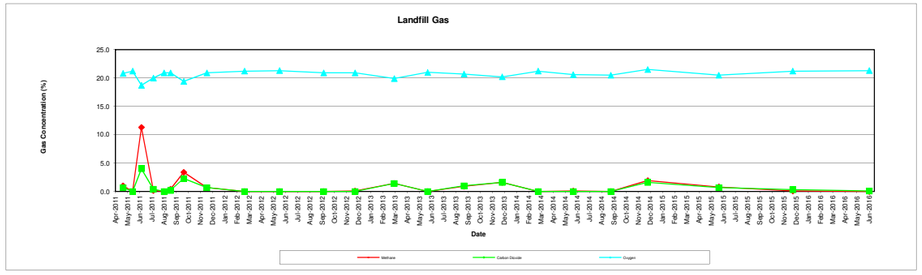
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	10.55	10.2	10:37	12:13	10:01	10:16	11:41	10:23	11:23	12:07	11:50	12:01	15:21	11:29	10:28	11:18	10:24	10:04	10:30	13:45	10:04	12:20	11:09
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	0.10	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	0.30	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.4	0.2	<0.1	0.1
Oxygen	% vol	21.4	21.0	21.1	20.90	20.80	20.90	20.40	21.50	21.40	21.30	20.80	21.00	21.5	20.9	20.7	21.2	21.3	20.1	20.6	21.4	21.1	21.6	20.8
Atmospheric Pressure	mbars	1012	1007	1007	1013	1012	997	994	1002	1022	1018	1012	1003	992	1025	1010	1016	1028	1010	1016	992	1005	1001	999
Gas Pressure	mbars	0.00	0.00	0.00	-0.02	0.01	<0.01	0.01	0.10	<0.01	-0.17	0.13	-0.15	0.09	0.07	-0.22	0.09	-0.03	<0.01	0.09	0.36	0.03	0.07	0.02
Gas Flow Rate	l/hr	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	0.10	<0.1	0.1	0.2	0.1	<0.1	0.1	-0.5	0.2	0.1	0.2	0.3



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV72**

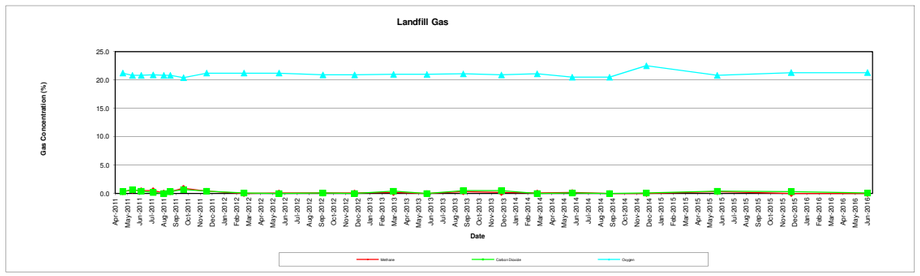
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	11.38	11.06	11:36	11:19	10:54	11:15	12:29	09:29	10:25	11:10	10:45	13:00	15:19	12:17	11:28	12:08	11:25	11:14	11:35	11:10	11:19	11:11	12:21
Methane	% vol	1.0	<0.1	11.3	0.20	<0.1	0.40	3.40	0.70	<0.1	<0.1	<0.1	0.10	1.4	<0.1	0.9	1.6	<0.1	0.1	<0.1	1.9	0.8	0.1	<0.1
Carbon Dioxide	% vol	0.7	<0.1	4.0	0.40	<0.1	0.20	2.30	0.70	<0.1	<0.1	<0.1	<0.1	1.4	<0.1	1	1.6	<0.1	<0.1	<0.1	1.6	0.7	0.3	0.1
Oxygen	% vol	20.8	21.2	18.7	20.00	20.90	20.90	19.40	20.90	21.20	21.30	20.90	20.90	19.9	21	20.7	20.2	21.2	20.6	20.5	21.5	20.5	21.2	21.3
Atmospheric Pressure	mbars	1012	1007	1007	1014	1012	997	993	1002	1023	1019	1013	1005	994	1026	1011	1015	1028	1008	1017	1001	1009	1002	1000
Gas Pressure	mbars	0.10	0.00	0.00	-0.11	<0.01	-0.09	0.20	0.11	0.15	-0.16	0.17	-0.14	0.17	-0.12	0.03	-0.02	-0.14	-0.39	-0.02	-0.05	<0.01	0.03	0.03
Gas Flow Rate	l/hr	<0.1	0.3	<0.1	0.1	<0.1	-0.2	<0.1	-0.1	<0.1	<0.1	0.20	<0.1	<0.1	0.2	0.2	<0.1	-0.1	<0.1	0.1	0.1	0.3	0.1	0.3



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV73**

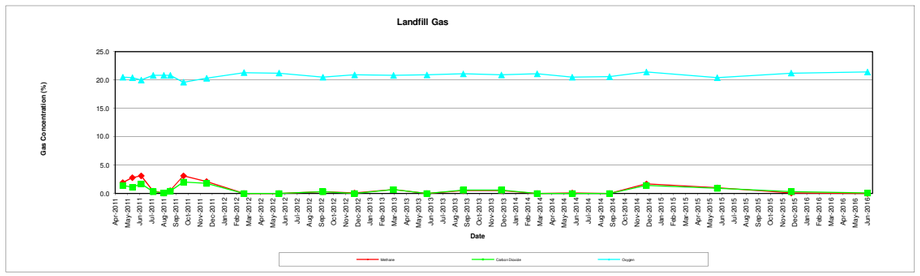
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	11.35	11.03	11:29	13:02	10:48	11:07	12:26	11:21	12:14	11:02	13:21	12:57	14:18	12:13	11:31	12:05	11:37	11:16	11:38	11:28	11:24	13:45	12:24
Methane	% vol	0.3	0.6	0.5	0.50	0.10	0.30	0.90	0.40	<0.1	0.10	0.10	0.10	0.2	<0.1	0.3	0.2	0.1	0.2	<0.1	<0.1	0.3	<0.1	<0.1
Carbon Dioxide	% vol	0.3	0.7	0.4	0.20	<0.1	0.30	0.70	0.40	0.10	<0.1	0.10	<0.1	0.4	<0.1	0.5	0.5	<0.1	0.1	<0.1	0.1	0.4	0.3	0.1
Oxygen	% vol	21.2	20.8	20.8	20.90	20.80	20.80	20.40	21.20	21.20	21.20	20.90	20.90	21	21	21.1	20.9	21.1	20.5	20.5	22.5	20.8	21.3	21.3
Atmospheric Pressure	mbars	1012	1007	1007	1013	1011	997	993	1000	1022	1017	1011	1004	991	1025	1011	1015	1028	1008	1017	1000	1007	1000	1000
Gas Pressure	mbars	0.01	0.00	0.00	-0.14	-0.02	<0.01	0.19	<0.1	0.04	-0.10	0.11	-0.12	0.24	-0.09	0.09	0.15	-0.16	-0.42	0.01	0.07	<0.01	-0.15	-0.02
Gas Flow Rate	l/hr	<0.1	0.2	<0.1	0.2	<0.1	-0.1	-0.3	-0.3	<0.1	<0.1	<0.1	-0.10	0.1	0.1	0.3	<0.1	-0.1	<0.1	-0.1	0.3	0.1	0.1	0.3



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV74**

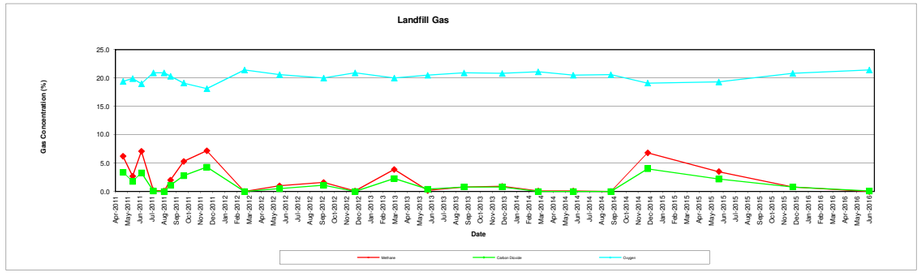
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	11.31	10.59	11:25	12:59	10:44	11:04	12:23	11:17	12:11	10:59	13:13	12:54	14:15	12:10	11:40	12:01	11:40	11:19	11:44	11:33	11:27	13:41	12:27
Methane	% vol	1.9	2.8	3.1	0.40	0.10	0.50	3.10	2.10	<0.1	<0.1	0.30	0.10	0.7	<0.1	0.5	0.5	<0.1	0.1	<0.1	1.7	1	0.1	<0.1
Carbon Dioxide	% vol	1.4	1.1	1.7	0.30	0.10	0.40	2.00	1.80	<0.1	<0.1	0.30	<0.1	0.7	<0.1	0.6	0.6	<0.1	<0.1	<0.1	1.4	0.9	0.3	0.1
Oxygen	% vol	20.5	20.4	20.0	20.80	20.80	20.80	19.60	20.30	21.30	21.20	20.50	20.90	20.8	20.9	21.1	20.9	21.1	20.5	20.6	21.4	20.4	21.2	21.4
Atmospheric Pressure	mbars	1012	1007	1007	1012	1011	996	993	1000	1022	1017	1010	1004	991	1025	1010	1015	1028	1008	1016	998	1006	1000	999
Gas Pressure	mbars	-0.10	0.00	0.00	<0.01	-0.06	<0.01	-0.09	0.11	-0.08	-0.14	0.04	-0.10	0.15	-0.09	0.09	0.05	-0.15	-0.41	-0.31	-0.14	<0.01	-0.02	0.38
Gas Flow Rate	l/hr	<0.1	0.3	<0.1	0.1	-0.1	-0.1	-0.2	<0.1	<0.1	<0.1	-0.10	-0.10	<0.1	0.2	0.3	0.1	-0.4	<0.1	-0.2	0.3	0.2	0.1	0.3



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV75**

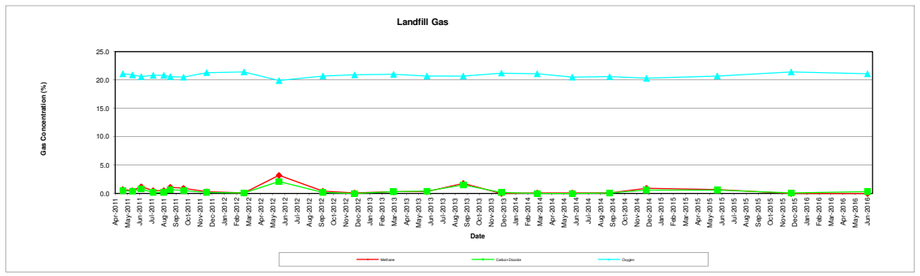
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	11.28	10.57	11:20	12:55	10:40	11:00	12:18	11:14	12:07	10:56	13:08	12:51	14:12	12:07	11:42	11:52	11:42	11:22	11:47	11:38	11:30	13:37	12:31
Methane	% vol	6.2	2.7	7.1	0.20	0.10	2.00	5.30	7.20	<0.1	1.00	1.60	0.10	3.9	0.2	0.8	0.9	0.1	0.1	<0.1	6.8	3.5	0.8	<0.1
Carbon Dioxide	% vol	3.4	1.8	3.3	0.10	<0.1	1.10	2.80	4.30	<0.1	0.50	1.10	<0.1	2.3	0.4	0.8	0.8	<0.1	<0.1	<0.1	4	2.2	0.8	0.1
Oxygen	% vol	19.4	19.9	19.0	20.90	20.90	20.30	19.10	18.10	21.40	20.60	20.00	20.90	20	20.5	20.9	20.8	21.1	20.5	20.6	19.1	19.3	20.8	21.4
Atmospheric Pressure	mbars	1012	1007	1007	1012	1011	996	993	1000	1022	1017	1010	1004	991	1025	1009	1015	1027	1008	1016	998	1005	1000	999
Gas Pressure	mbars	0.00	0.00	0.00	-0.17	<0.01	<0.01	-0.32	0.13	-0.11	-0.15	0.10	-0.10	0.21	-0.12	0.14	0.17	-0.11	-0.39	-0.13	-0.33	0.02	-0.02	-0.19
Gas Flow Rate	l/hr	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	-0.1	-0.10	<0.1	0.10	<0.1	-0.1	0.3	0.1	<0.1	<0.1	<0.1	0.2	0.3	0.2	0.3



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV76**

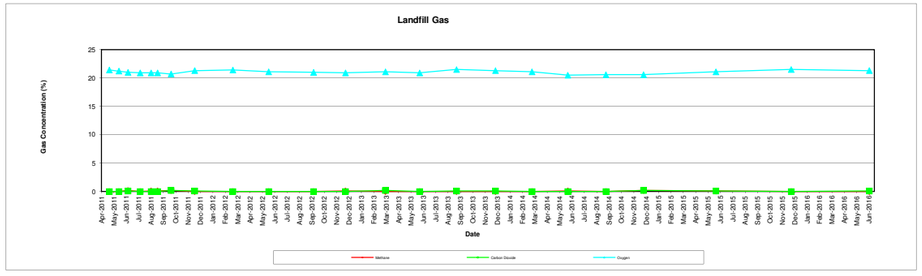
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	11.26	10.54	11:16	12:52	10:37	10:56	12:15	11:11	12:03	10:52	13:04	12:47	14:09	12:05	11:46	11:48	11:45	11:25	11:50	13:54	11:33	13:33	12:36
Methane	% vol	0.7	0.5	1.2	0.50	0.50	1.10	0.90	0.30	0.10	3.20	0.40	0.10	0.3	0.3	1.8	<0.1	0.1	0.1	0.1	0.9	0.7	<0.1	<0.1
Carbon Dioxide	% vol	0.5	0.4	0.8	0.20	0.20	0.70	0.50	0.20	0.10	2.10	0.20	<0.1	0.3	0.4	1.5	0.2	<0.1	<0.1	0.1	0.6	0.6	0.1	0.3
Oxygen	% vol	21.1	20.9	20.6	20.80	20.80	20.60	20.50	21.30	21.40	19.90	20.70	20.90	21	20.7	20.7	21.2	21.1	20.5	20.6	20.3	20.7	21.4	21.1
Atmospheric Pressure	mbars	1012	1007	1007	1012	1011	996	993	1000	1022	1017	1010	1004	991	1025	1009	1015	1027	1008	1016	994	1005	1000	999
Gas Pressure	mbars	0.00	0.00	0.00	-0.13	0.10	-0.08	-0.25	0.13	0.17	-0.10	0.20	-0.15	0.07	-0.03	0.07	0.05	-0.11	-0.45	-0.04	0.06	-0.07	0.05	0.05
Gas Flow Rate	l/hr	<0.1	-0.7	<0.1	0.1	<0.1	<0.1	-0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	0.2	-1.4	0.2	0.1	0.4



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	GV77

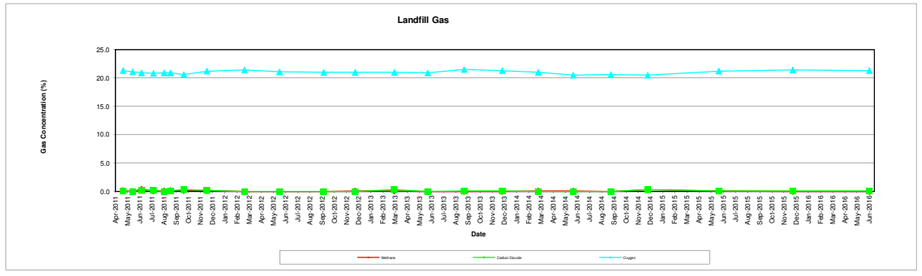
Determinand	Units																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	11.23	10.52	11:12	12:49	10:34	10:53	12:12	11:08	12:00	10:49	13:00	12:43	14:06	12:01	11:48	11:45	11:48	11:30	11:53	13:51	11:36	13:30	12:39
Methane	% vol	<0.1	<0.1	0.2	<0.1	0.10	0.10	0.20	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.2	0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.20	0.10	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	0.1
Oxygen	% vol	21.4	21.2	21.0	20.90	20.90	20.90	20.70	21.30	21.40	21.10	21.00	20.90	21.1	20.9	21.5	21.3	21.1	20.5	20.6	20.6	21.1	21.5	21.3
Atmospheric Pressure	mbars	1012	1007	1007	1012	1011	996	993	1000	1022	1017	1010	1003	991	1025	1010	1015	1027	1008	1016	994	1005	1000	999
Gas Pressure	mbars	0.03	0.00	0.00	-0.08	-0.01	-0.07	0.03	0.14	0.09	-0.06	0.14	-0.14	0.1	<0.01	-0.02	0.09	-0.14	-0.44	-0.05	-0.02	-0.03	0.02	<0.01
Gas Flow Rate	l/hr	<0.1	-0.5	<0.1	0.1	<0.1	-0.1	0.1	<0.1	<0.1	<0.1	0.10	-0.10	<0.1	0.1	0.2	0.1	<0.1	<0.1	0.2	-0.4	0.3	0.1	0.1



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV78**

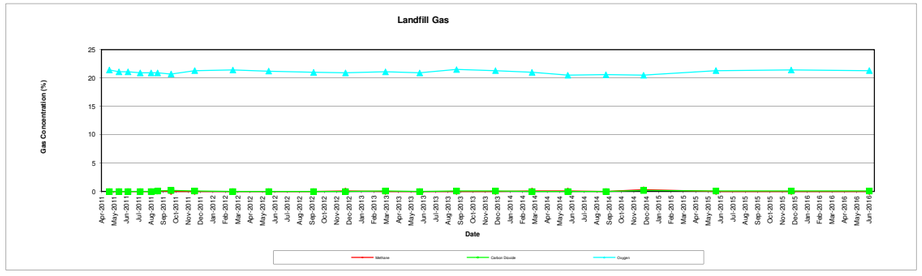
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	11.20	10.49	11:09	12:46	10:31	10:49	12:09	11:05	11:57	10:47	12:56	0.775	14:03	11:58	11:51	11:42	11:51	11:32	11:55	13:48	11:40	13:27	12:43
Methane	% vol	0.2	<0.1	0.4	0.10	0.10	0.20	0.20	0.20	<0.1	<0.1	<0.1	0.10	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.3	0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.1	<0.1	0.2	0.20	<0.1	0.10	0.30	0.20	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.3	0.1	0.1	0.1
Oxygen	% vol	21.3	21.1	20.9	20.80	20.90	20.90	20.60	21.20	21.40	21.10	21.00	21.00	21	20.9	21.5	21.3	21	20.5	20.6	20.5	21.2	21.4	21.3
Atmospheric Pressure	mbars	1012	1007	1007	1012	1011	996	993	1000	1022	1017	1010	1003	991	1025	1010	1015	1027	1008	1015	995	1005	1000	999
Gas Pressure	mbars	0.02	0.00	0.00	-0.06	0.01	-0.04	-0.12	0.16	0.16	-0.07	0.04	-0.10	<0.01	0.02	-0.15	0.07	-0.11	-0.41	-0.11	0.34	-0.03	<0.01	0.19
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	-0.2	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	0.1	0.2	0.1	<0.1	<0.1	-0.2	0.1	0.3	0.2	0.3



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	GV79

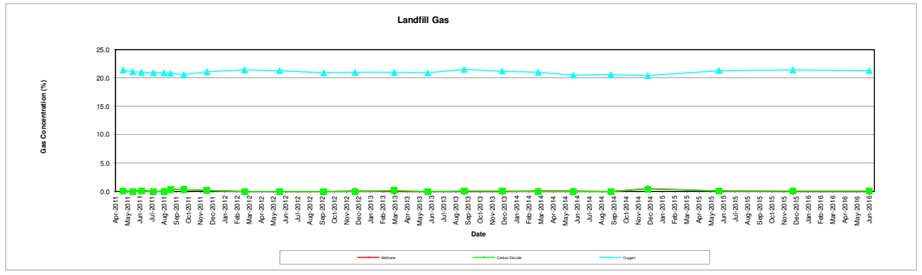
Determinand	Units																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	11.17	10.47	11:03	12:42	10:27	10:46	12:06	11:01	11:53	10:42	12:52	12:34	14:00	11:55	11:53	11:39	11:53	11:36	11:58	13:44	11:43	13:23	12:48
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.3	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	0.20	0.10	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.2	0.1	0.1	0.1
Oxygen	% vol	21.4	21.1	21.1	20.90	20.90	20.90	20.70	21.30	21.40	21.20	21.00	20.90	21.1	20.9	21.5	21.3	21	20.5	20.6	20.5	21.3	21.4	21.3
Atmospheric Pressure	mbars	1012	1007	1007	1012	1010	996	993	1000	1022	1017	1010	1003	991	1025	1010	1015	1027	1008	1016	994	1005	1000	999
Gas Pressure	mbars	-0.03	0.00	0.00	-0.07	0.01	-0.09	-0.02	0.14	0.17	-0.06	0.03	-0.12	-0.09	<0.01	-0.03	0.12	-0.13	-0.48	-0.04	-0.15	0.03	0.03	-0.14
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.20	<0.1	<0.1	0.1	0.2	0.1	<0.1	<0.1	0.2	-0.3	0.1	0.2	0.1



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV80**

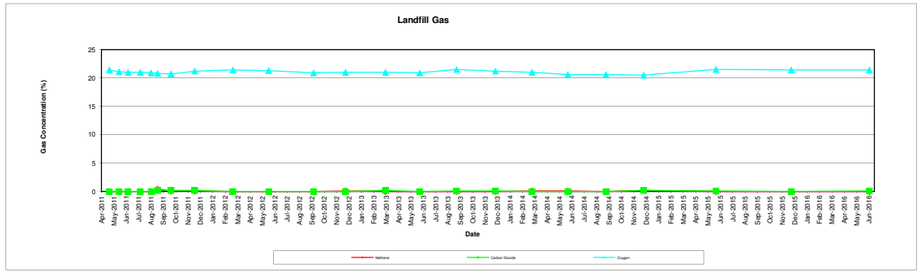
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	11.15	10.44	11:06	12:39	10:24	10:43	12:03	10:58	11:49	10:39	12:49	12:31	13:58	11:51	11:56	11:37	11:56	11:38	12:01	13:41	11:47	13:20	12:52
Methane	% vol	0.1	<0.1	0.2	<0.1	0.10	0.40	0.30	0.20	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.5	0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.1	<0.1	0.1	<0.1	<0.1	0.30	0.30	0.20	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.4	0.1	0.1	0.1
Oxygen	% vol	21.4	21.1	21.0	20.90	20.90	20.80	20.60	21.10	21.40	21.30	20.90	21.00	21	20.9	21.5	21.2	21	20.5	20.6	20.4	21.3	21.4	21.3
Atmospheric Pressure	mbars	1012	1007	1007	1012	1010	996	993	1000	1021	1017	1010	1003	991	1025	1010	1015	1027	1008	1016	995	1005	1000	999
Gas Pressure	mbars	0.01	0.00	0.00	-0.05	0.01	-0.06	-0.16	<0.1	0.13	-0.03	0.06	-0.06	-0.02	-0.02	-0.14	0.09	-0.14	-0.43	-0.1	-0.04	<0.01	-0.05	-0.1
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	-0.1	<0.1	-0.3	<0.1	-0.20	<0.1	<0.1	0.1	0.2	0.3	<0.1	<0.1	0.3	-0.4	0.1	0.2	0.3



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV81**

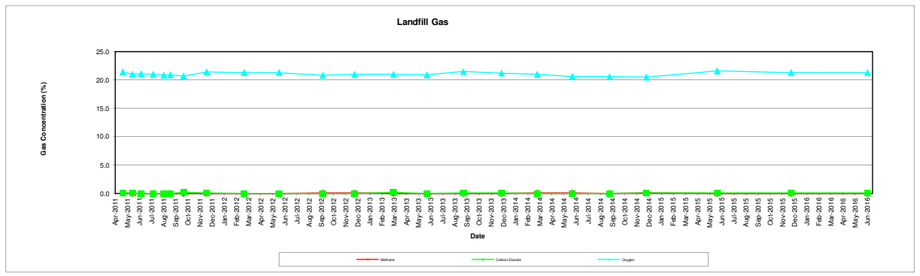
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	11.12	10.41	10:57	12:35	10:21	10:39	11:59	10:55	11:46	10:36	12:46	12:28	13:55	11:47	11:59	11:34	11:59	11:41	12:04	13:36	11:50	13:16	12:58
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	0.40	0.10	0.10	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.2	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	0.20	0.20	0.20	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	0.1
Oxygen	% vol	21.4	21.1	21.0	21.00	20.90	20.80	20.70	21.20	21.40	21.30	20.90	21.00	21	20.9	21.5	21.2	21	20.6	20.6	20.5	21.5	21.4	21.4
Atmospheric Pressure	mbars	1012	1007	1007	1012	1011	996	993	1000	1021	1017	1010	1003	990	1024	1009	1015	1027	1008	1015	994	1005	1000	999
Gas Pressure	mbars	0.00	0.00	0.00	-0.05	-0.07	-0.12	-0.08	<0.1	<0.01	-0.06	0.09	-0.12	-0.07	0.09	0.05	0.03	-0.16	-0.5	-0.2	0.13	0.02	-0.05	0.21
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	0.2	0.1	0.1	0.2	<0.1	<0.1	0.3	0.2	0.4	0.1	0.4



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV82**

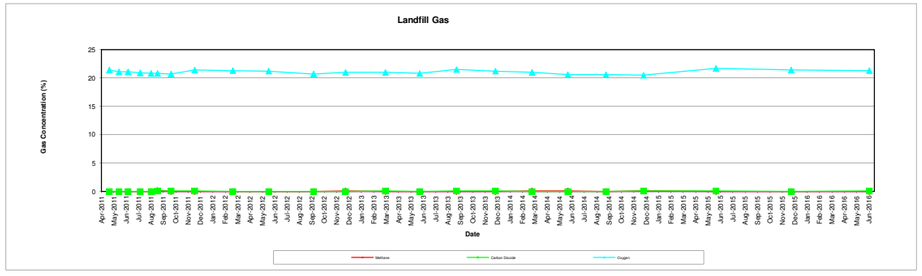
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	11.10	10.38	10:54	12:32	10:14	10:36	11:55	10:39	11:42	10:33	12:42	12:22	13:53	11:44	12:01	11:32	12:02	11:44	12:07	13:33	11:54	13:12	13:01
Methane	% vol	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	0.10	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.20	0.10	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.1
Oxygen	% vol	21.4	21.0	21.1	21.00	20.80	20.90	20.70	21.40	21.30	21.30	20.80	21.00	21	20.9	21.5	21.2	21	20.6	20.6	20.5	21.6	21.3	21.3
Atmospheric Pressure	mbars	1012	1007	1007	1012	1010	996	993	1000	1021	1017	1010	1003	991	1025	1009	1015	1027	1007	1015	995	1005	999	999
Gas Pressure	mbars	0.00	0.00	0.00	<0.01	0.08	-0.06	-0.05	0.13	0.08	-0.03	0.03	-0.14	0.05	-0.05	-0.05	0.07	-0.13	-0.44	-0.04	0.2	-0.02	0.03	0.15
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	-0.1	<0.1	-0.6	<0.1	<0.1	<0.1	0.1	0.1	0.2	0.1	<0.1	0.1	0.3	<0.1	0.2	0.2	0.3



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	GV83

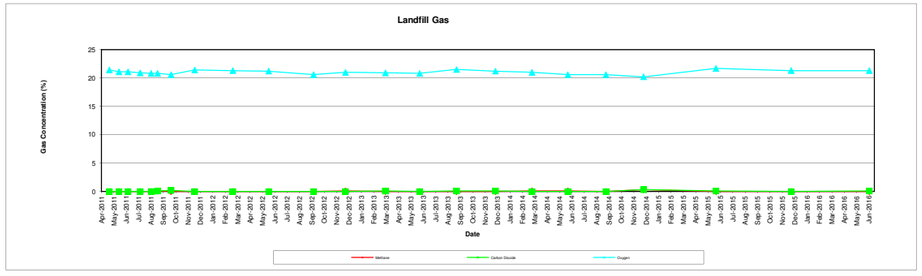
Determinand	Units																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	11.06	10.35	10:51	12:27	10:12	10:32	11:52	10:35	11:39	10:30	12:38	12:18	13:51	11:42	12:04	11:29	12:04	11:47	12:10	13:30	11:57	13:09	13:04
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	0.20	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	0.10	0.10	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1
Oxygen	% vol	21.4	21.1	21.1	20.90	20.80	20.80	20.70	21.40	21.30	21.20	20.70	21.00	21	20.8	21.5	21.2	21	20.6	20.6	20.5	21.7	21.4	21.3
Atmospheric Pressure	mbars	1012	1007	1007	1012	1010	996	993	1000	1021	1017	1010	1002	990	1024	1010	1015	1027	1007	1015	995	1005	1000	999
Gas Pressure	mbars	-0.01	0.00	0.00	-0.08	0.08	-0.03	-0.07	0.11	0.17	-0.02	0.06	-0.07	-0.1	-0.12	<0.01	-0.02	-0.16	-0.48	-0.11	<0.01	-0.02	0.05	0.09
Gas Flow Rate	l/hr	<0.1	-0.2	<0.1	0.1	<0.1	-0.1	-0.1	<0.1	<0.1	<0.1	-0.10	<0.1	0.1	0.2	0.2	0.2	<0.1	0.1	0.3	0.2	0.3	0.2	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV84**

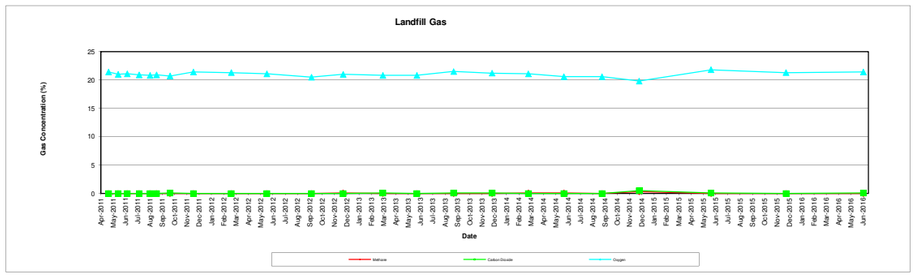
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	11.03	10.32	10:48	12:24	10:09	10:28	11:49	10:32	11:35	10:27	12:35	12:14	13:48	11:39	12:06	11:26	12:08	11:50	12:12	13:27	12:02	13:05	13:07
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.3	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	0.20	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.3	0.1	<0.1	0.1
Oxygen	% vol	21.4	21.1	21.1	20.90	20.80	20.80	20.60	21.40	21.30	21.20	20.60	21.00	20.9	20.8	21.5	21.2	21	20.6	20.6	20.2	21.7	21.3	21.3
Atmospheric Pressure	mbars	1012	1007	1007	1012	1011	996	993	1001	1021	1017	1010	1002	990	1024	1009	1015	1027	1007	1015	995	1005	999	999
Gas Pressure	mbars	0.00	0.00	0.00	-0.05	0.01	-0.04	-0.07	0.11	<0.01	<0.01	0.01	-0.11	-0.07	-0.02	0.03	0.03	-0.16	-0.49	-0.08	-0.16	0.03	0.05	0.15
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.2	0.1	0.3	0.2	<0.1	<0.1	0.3	0.2	0.1	0.1	0.3



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV85**

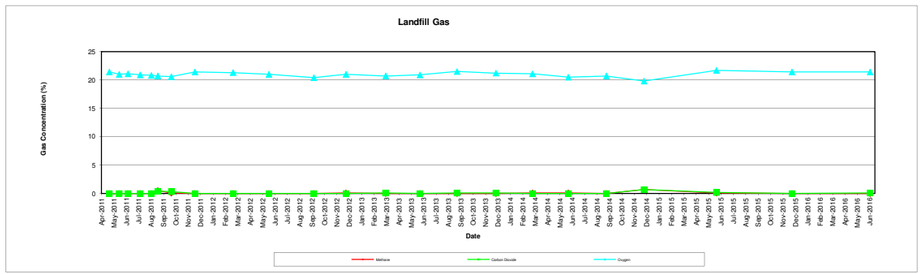
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	11.00	10.29	10:45	12:20	10:07	10:25	11:47	10:29	11:31	10:24	12:31	12:10	13:45	11:36	12:09	11:24	12:11	11:52	12:15	13:24	12:08	13:01	13:11
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.3	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.5	0.1	<0.1	0.1
Oxygen	% vol	21.4	21.0	21.1	20.90	20.80	20.90	20.70	21.40	21.30	21.10	20.50	21.00	20.8	20.8	21.5	21.2	21.1	20.6	20.6	19.8	21.8	21.3	21.4
Atmospheric Pressure	mbars	1012	1007	1007	1012	1010	996	993	1000	1021	1017	1011	1002	990	1025	1010	1015	1027	1007	1015	995	1005	999	999
Gas Pressure	mbars	0.00	0.00	0.00	-0.05	0.05	-0.04	-0.07	<0.1	0.19	0.01	0.08	-0.12	-0.15	-0.05	-0.02	-0.05	-0.2	-0.47	-0.13	0.28	0.03	0.03	0.34
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	0.1	<0.1	-0.1	-0.2	<0.1	<0.1	<0.1	<0.1	-0.30	0.2	0.2	0.1	0.2	<0.1	0.1	<0.1	0.1	0.5	0.1	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

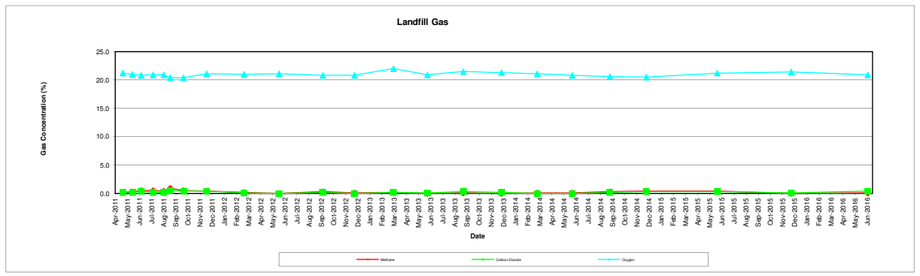
Sampling Location	**GV86**

Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	10.58	10.24	10:41	12:17	10:04	10:19	11:44	10:26	11:28	10:21	12:28	12:07	13:43	11:33	12:12	11:21	12:27	11:56	12:18	13:22	12:13	12:56	13:15
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	0.50	0.10	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.7	0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	0.40	0.30	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.7	0.2	<0.1	0.1
Oxygen	% vol	21.4	21.0	21.1	20.90	20.80	20.70	20.60	21.40	21.30	21.00	20.40	21.00	20.7	20.9	21.5	21.2	21.1	20.5	20.7	19.8	21.7	21.4	21.4
Atmospheric Pressure	mbars	1012	1007	1007	1013	1011	997	994	1001	1021	1017	1010	1003	990	1024	1010	1015	1027	1007	1015	995	1005	999	999
Gas Pressure	mbars	-0.01	0.00	0.00	-0.04	0.01	-0.04	<0.01	0.12	0.09	<0.01	-0.05	-0.24	-0.19	-0.09	-0.03	-0.05	-0.26	-0.45	-0.2	0.2	-0.02	-0.02	-0.12
Gas Flow Rate	l/hr	<0.1	-0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.10	<0.1	<0.1	<0.1	0.2	0.2	0.2	0.1	<0.1	0.1	-0.1	<0.1	0.4	0.1	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

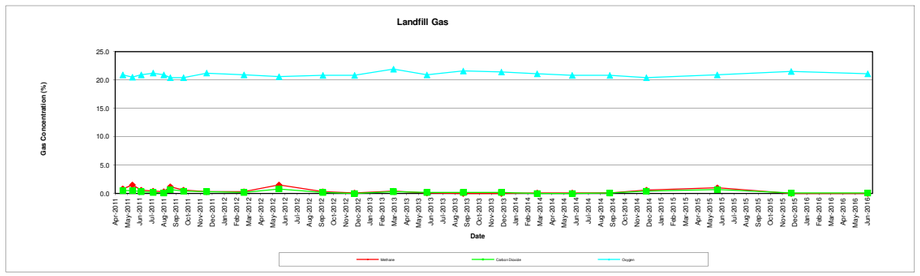
Sampling Location	**GV87**																							
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	08/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	12.29	11.37	11:36	13:45	11:29	11:50	12:53	11:57	12:56	13:02	13:42	14:05	10:03	12:23	13:01	12:30	13:03	12:42	13:00	13:58	14:05	14:12	14:38
Methane	% vol	0.2	0.3	0.5	0.50	0.40	0.90	0.50	0.40	0.20	<0.1	0.30	0.10	0.2	<0.1	0.1	<0.1	0.1	0.1	0.3	0.4	0.4	<0.1	0.1
Carbon Dioxide	% vol	0.2	0.2	0.4	0.20	0.20	0.50	0.40	0.40	0.10	<0.1	0.20	<0.1	0.2	0.1	0.3	0.2	<0.1	<0.1	0.2	0.3	0.3	0.1	0.4
Oxygen	% vol	21.2	21.0	20.8	20.90	20.90	20.40	20.40	21.10	21.00	21.10	20.80	20.80	22	20.9	21.5	21.3	21.1	20.8	20.6	20.5	21.2	21.4	20.9
Atmospheric Pressure	mbars	1010	1003	1007	1013	1010	995	991	998	1021	1016	1009	1005	991	1024	1009	1013	1027	1007	1014	993	1002	999	998
Gas Pressure	mbars	0.01	0.00	0.00	-0.14	0.02	-0.06	0.14	0.13	0.15	-0.19	0.11	-0.18	-0.15	0.03	-0.17	0.15	-0.18	-0.48	-0.06	0.64	0.07	-0.02	0.03
Gas Flow Rate	l/hr	0.3	0.3	<0.1	-0.1	<0.1	-0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.3	0.2	0.2	0.2	<0.1	0.1	0.1	0.4	0.3	0.2	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV88**

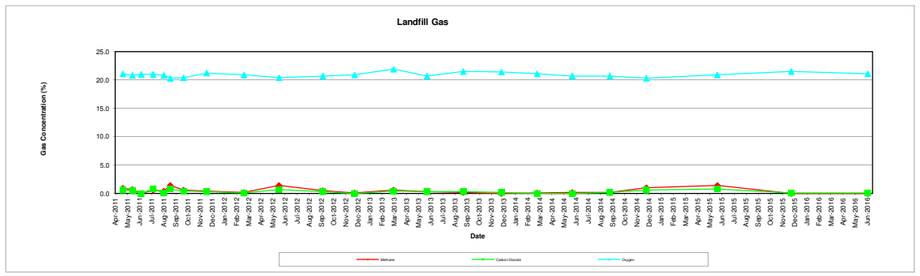
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	12.32	11.39	11:50	13:56	11:33	11:54	12:58	12:00	12:59	12:59	13:47	14:08	09:59	12:27	12:58	12:33	13:00	12:39	12:57	14:01	14:03	14:25	14:35
Methane	% vol	0.8	1.5	0.6	0.40	0.30	1.20	0.60	0.30	0.30	1.50	0.30	0.10	0.4	0.1	<0.1	<0.1	0.1	0.1	0.1	0.6	1	<0.1	<0.1
Carbon Dioxide	% vol	0.5	0.5	0.3	0.20	0.10	0.70	0.40	0.30	0.20	0.80	0.20	<0.1	0.3	0.2	0.2	0.2	<0.1	<0.1	0.1	0.4	0.7	0.1	0.1
Oxygen	% vol	20.9	20.5	20.9	21.20	20.90	20.40	20.40	21.20	20.90	20.60	20.80	20.80	21.9	20.9	21.6	21.4	21.1	20.8	20.8	20.4	20.9	21.5	21.1
Atmospheric Pressure	mbars	1010	1003	1007	1012	1010	996	991	998	1021	1016	1009	1005	991	1024	1006	1013	1026	1007	1014	991	1002	998	998
Gas Pressure	mbars	0.90	0.00	0.00	-0.28	-0.05	0.02	-0.01	<0.1	0.19	-0.21	0.02	-0.02	-0.15	0.12	<0.01	-0.12	-0.16	-0.45	-0.15	0.14	0.02	-0.4	0.07
Gas Flow Rate	l/hr	0.1	0.2	<0.1	0.1	<0.1	-0.1	-0.3	0.1	-0.2	<0.1	-0.20	<0.1	0.4	0.2	0.3	0.2	<0.1	0.1	-0.5	0.3	0.4	0.2	0.4



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	GV89

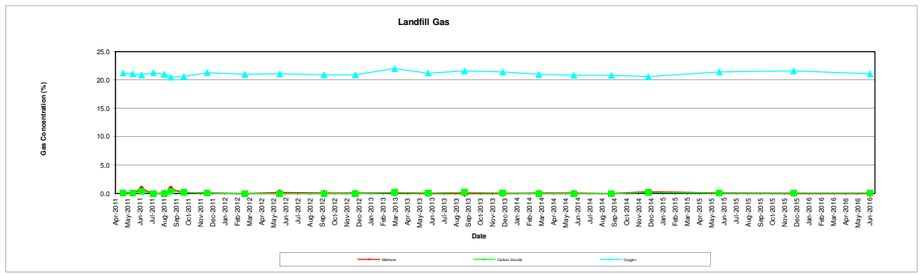
Determinand	Units																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	12.35	11.42	11:53	14:00	11:35	11:58	13:01	12:04	13:03	12:56	13:50	14:11	09:56	12:30	12:56	12:35	12:57	12:36	12:54	14:04	14:00	14:29	14:32
Methane	% vol	0.9	0.7	<0.1	0.60	0.40	1.40	0.60	0.40	0.20	1.40	0.50	0.10	0.6	0.3	0.2	<0.1	0.1	0.2	0.2	1	1.4	<0.1	<0.1
Carbon Dioxide	% vol	0.6	0.5	<0.1	0.80	0.10	0.80	0.40	0.30	0.10	0.70	0.30	<0.1	0.4	0.3	0.3	0.2	<0.1	<0.1	0.2	0.6	0.8	0.1	0.1
Oxygen	% vol	21.1	20.8	21.0	21.00	20.80	20.30	20.40	21.20	20.90	20.40	20.70	20.90	21.9	20.7	21.5	21.4	21.1	20.7	20.7	20.3	20.9	21.5	21.1
Atmospheric Pressure	mbars	1010	1003	1007	1012	1010	995	991	998	1021	1016	1009	1005	991	1024	1008	1013	1026	1007	1014	991	1002	999	998
Gas Pressure	mbars	0.01	0.00	0.00	-0.02	0.01	-0.02	-0.07	0.12	-0.08	-0.26	-0.03	-0.09	-0.03	<0.01	-0.03	-0.26	-0.22	-0.46	-0.17	-0.14	-0.03	-0.48	<0.01
Gas Flow Rate	l/hr	0.2	0.2	<0.1	0.1	<0.1	-0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	0.3	0.2	0.1	<0.1	0.1	-0.4	0.2	0.3	0.2	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV90**

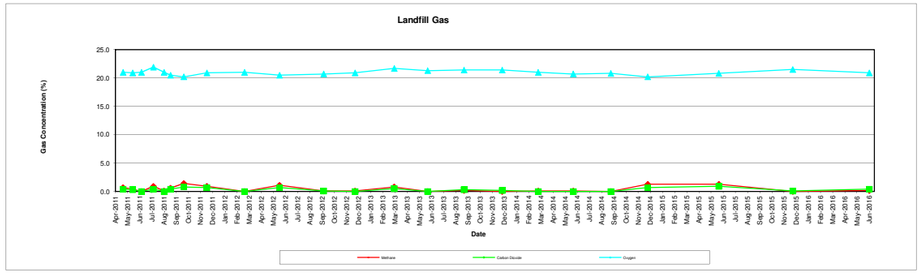
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	12.38	11.45	11:56	14:04	11:40	12:01	13:03	12:07	13:06	12:53	13:53	14:15	09:53	12:33	12:53	12:38	12:54	12:33	12:51	14:06	13:57	14:32	14:29
Methane	% vol	0.2	0.1	0.8	<0.1	0.10	0.80	0.20	0.10	<0.1	0.20	0.10	0.10	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.3	0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.1	0.1	0.4	<0.1	<0.1	0.40	0.20	0.10	<0.1	<0.1	<0.1	<0.1	0.2	0.1	0.2	0.1	<0.1	<0.1	<0.1	0.2	0.1	0.1	0.1
Oxygen	% vol	21.2	21.1	20.9	21.30	21.00	20.50	20.60	21.30	21.00	21.10	20.90	20.90	22	21.2	21.6	21.4	21	20.8	20.8	20.6	21.4	21.6	21.1
Atmospheric Pressure	mbars	1010	1003	1007	1012	1010	995	990	998	1021	1016	1009	1005	991	1024	1008	1013	1026	1007	1014	990	1002	999	998
Gas Pressure	mbars	0.02	0.00	0.00	0.01	-0.20	<0.01	-0.03	0.10	-0.27	-0.15	0.14	-0.12	-0.07	0.03	-0.05	0.05	-0.16	-0.45	-0.05	0.05	-0.03	0.07	0.09
Gas Flow Rate	l/hr	0.2	0.3	<0.1	0.2	<0.1	-0.2	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.5	0.1	0.2	0.1	<0.1	0.1	<0.1	0.3	0.4	0.1	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

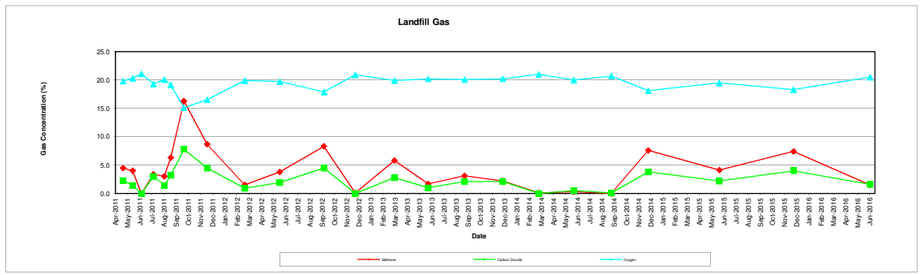
Sampling Location	GV91

Determinand	Units																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	12.41	11.48	12:00	14:07	11:43	12:04	13:06	12:10	13:10	12:50	13:57	14:17	09:50	12:36	12:51	12:40	12:51	12:30	12:48	14:09	13:54	14:36	14:27
Methane	% vol	0.7	0.4	<0.1	0.90	0.10	0.60	1.40	0.90	<0.1	1.10	0.10	0.10	0.8	<0.1	0.2	<0.1	0.1	0.1	<0.1	1.3	1.3	<0.1	0.2
Carbon Dioxide	% vol	0.4	0.3	<0.1	0.40	<0.1	0.40	0.80	0.70	<0.1	0.70	0.10	<0.1	0.5	<0.1	0.3	0.2	<0.1	<0.1	<0.1	0.7	0.9	0.1	0.4
Oxygen	% vol	21.0	20.9	21.0	21.90	21.00	20.50	20.20	20.90	21.00	20.50	20.70	20.90	21.7	21.3	21.4	21.4	21	20.7	20.8	20.2	20.8	21.5	20.9
Atmospheric Pressure	mbars	1010	1003	1007	1012	1010	995	991	998	1021	1016	1009	1005	991	1024	1008	1013	1026	1007	1014	990	1002	998	998
Gas Pressure	mbars	0.00	0.00	0.00	-0.05	0.01	0.04	0.17	0.13	0.13	-0.09	0.03	-0.10	-0.15	-0.14	0.05	-0.14	-0.23	-0.47	-0.11	0.26	-0.03	<0.01	0.19
Gas Flow Rate	l/hr	<0.1	0.2	<0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	<0.1	0.3	<0.1	<0.1	0.1	<0.1	0.4	0.3	0.1	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

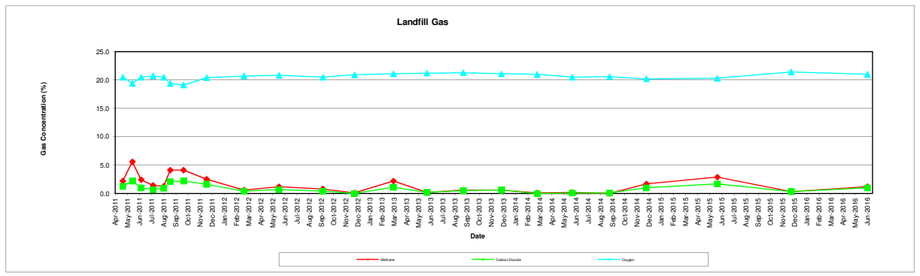
Sampling Location	**GV92**																							
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	12.44	11.50	12:05	14:10	11:45	12:07	13:09	12:13	13:13	12:46	14:02	14:23	09:47	12:38	12:49	12:43	12:48	12:27	12:46	14:13	13:52	14:39	14:23
Methane	% vol	4.5	4.0	<0.1	3.40	3.00	6.30	16.30	8.70	1.50	3.80	8.30	0.10	5.8	1.7	3.1	2.2	0.1	0.3	<0.1	7.6	4.1	7.4	1.5
Carbon Dioxide	% vol	2.3	1.4	<0.1	3.00	1.40	3.20	7.80	4.50	0.90	1.90	4.50	<0.1	2.8	1	2.1	2.1	<0.1	0.5	0.1	3.8	2.2	4	1.6
Oxygen	% vol	19.8	20.3	21.1	19.30	20.10	19.10	15.10	16.50	19.90	19.70	17.90	20.90	19.9	20.2	20.1	20.2	21	20	20.7	18.1	19.5	18.3	20.5
Atmospheric Pressure	mbars	1010	1003	1007	1012	1010	995	990	998	1021	1016	1009	1005	991	1024	1008	1013	1026	1006	1014	991	995	999	998
Gas Pressure	mbars	0.01	0.00	0.00	<0.01	<0.01	-0.01	0.07	0.17	-0.13	-0.22	0.07	-0.10	-0.1	-0.02	0.03	-0.22	-0.17	-0.46	-0.14	-0.12	-0.02	-0.07	0.03
Gas Flow Rate	l/hr	<0.1	0.1	<0.1	0.1	-0.1	-0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.10	0.4	<0.1	0.2	0.1	<0.1	0.1	-0.4	<0.1	0.3	0.1	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV93**

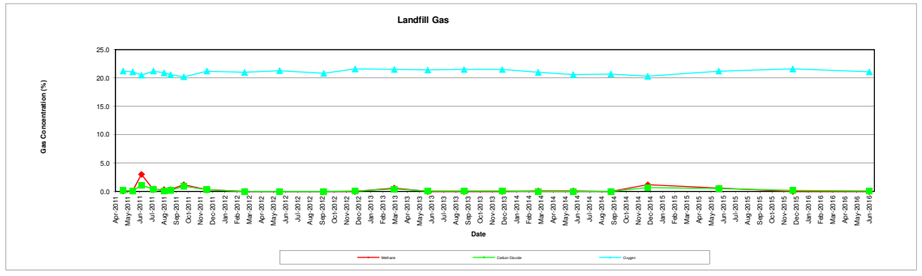
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	12.47	11.53	12:09	14:15	11:50	12:12	13:12	12:17	13:16	12:44	14:06	14:27	09:44	12:42	12:46	12:45	12:45	12:25	12:43	14:16	13:49	14:43	14:20
Methane	% vol	2.2	5.6	2.4	1.40	1.30	4.10	4.10	2.50	0.60	1.20	0.80	0.10	2.2	0.2	0.6	0.6	0.1	0.2	<0.1	1.7	2.9	0.3	1.2
Carbon Dioxide	% vol	1.3	2.2	1.0	0.70	0.90	2.10	2.20	1.60	0.40	0.70	0.40	<0.1	1.1	0.2	0.5	0.6	<0.1	0.1	0.1	1	1.7	0.3	1
Oxygen	% vol	20.5	19.4	20.5	20.70	20.50	19.40	19.10	20.40	20.70	20.80	20.50	20.90	21.1	21.2	21.3	21.1	21	20.5	20.6	20.2	20.3	21.4	21
Atmospheric Pressure	mbars	1010	1003	1007	1012	1010	995	990	998	1021	1016	1009	1005	991	1024	1008	1013	1026	1006	1014	990	1001	998	997
Gas Pressure	mbars	0.00	0.00	0.00	-0.04	-0.05	-0.06	0.18	0.17	-0.07	-0.21	-0.02	-0.20	-0.02	0.05	-0.05	-0.1	-0.18	-0.48	-0.16	-0.01	-0.05	<0.01	0.29
Gas Flow Rate	l/hr	<0.1	0.1	<0.1	-0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	-0.10	0.4	0.2	0.2	<0.1	<0.1	0.1	-0.1	0.7	0.4	0.1	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	GV94

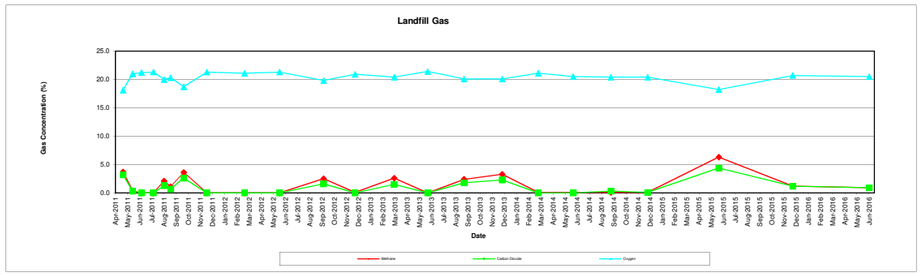
Determinand	Units																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	12.49	11.56	12:13	14:19	11:53	12:15	13:16	12:21	13:20	12:40	14:10	13:53	09:41	12:45	12:40	12:49	12:43	12:22	12:40	14:19	13:45	14:47	14:18
Methane	% vol	0.1	0.1	3	0.30	0.30	0.30	1.20	0.30	<0.1	<0.1	<0.1	<0.1	0.6	<0.1	<0.1	<0.1	0.1	0.1	<0.1	1.2	0.6	<0.1	<0.1
Carbon Dioxide	% vol	0.2	0.1	1.1	0.40	0.10	0.20	0.90	0.30	<0.1	<0.1	<0.1	0.10	0.4	0.1	0.1	0.1	<0.1	<0.1	<0.1	0.7	0.5	0.2	0.1
Oxygen	% vol	21.2	21.1	20.5	21.20	20.90	20.60	20.20	21.20	21.00	21.30	20.80	21.60	21.5	21.4	21.5	21.5	21	20.6	20.7	20.3	21.2	21.6	21.1
Atmospheric Pressure	mbars	1010	1003	1007	1012	1010	995	990	998	1021	1016	1009	1002	985	1024	1008	1012	1026	1006	1014	991	1002	998	997
Gas Pressure	mbars	0.01	0.00	0.00	0.02	0.05	<0.01	0.12	0.18	0.05	-0.15	0.15	0.00	-0.15	-0.02	0.02	-0.12	-0.18	-0.46	-0.1	0.06	0.05	-0.48	-0.14
Gas Flow Rate	l/hr	0.1	0.1	<0.1	0.1	0.1	<0.1	0.2	<0.1	<0.1	<0.1	-0.10	<0.1	0.4	0.1	0.1	<0.1	<0.1	0.1	<0.1	0.3	0.3	0.1	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	GV95

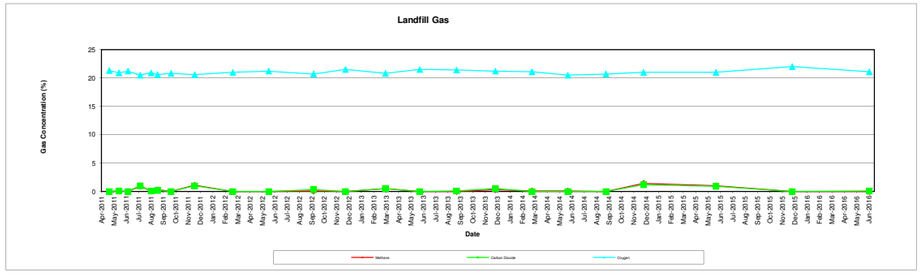
Determinand	Units																						
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	12.52	11.58	12:16	14:22	11:57	12:18	13:19	12:24	13:23	12:37	14:19	14:31	09:33	12:48	12:31	12:51	12:40	12:19	12:37	14:22	13:42	14:50	14:15
Methane	% vol	3.7	0.4	<0.1	<0.1	2.10	1.10	3.60	<0.1	<0.1	<0.1	2.50	0.10	2.6	<0.1	2.4	3.3	0.1	0.1	0.1	0.1	6.3	1.2	0.9
Carbon Dioxide	% vol	3.2	0.3	<0.1	<0.1	1.30	0.70	2.60	<0.1	<0.1	<0.1	1.60	<0.1	1.5	<0.1	1.8	2.3	<0.1	<0.1	0.3	0.1	4.4	1.2	0.9
Oxygen	% vol	18.1	21.0	21.2	21.30	20.00	20.30	18.70	21.30	21.10	21.30	19.80	20.90	20.4	21.4	20.1	20.1	21.1	20.5	20.4	20.4	18.2	20.7	20.5
Atmospheric Pressure	mbars	1010	1003	1007	1012	1010	995	990	998	1020	1016	1009	1005	990	1024	1009	1013	1026	1006	1014	990	1001	998	997
Gas Pressure	mbars	0.01	0.00	0.00	-0.19	-0.03	<0.01	0.09	<0.1	0.13	-0.24	0.04	-0.14	-0.02	-0.05	0.07	-0.1	-0.16	-0.46	-0.08	-0.62	<0.01	0.03	-0.15
Gas Flow Rate	l/hr	0.2	0.2	<0.1	-0.3	-0.1	<0.1	0.2	0.3	0.2	<0.1	<0.1	<0.1	0.3	0.1	0.3	-0.1	<0.1	-0.1	-0.3	0.6	0.4	0.1	0.2
																								Gas tap requires replacing



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	GV96

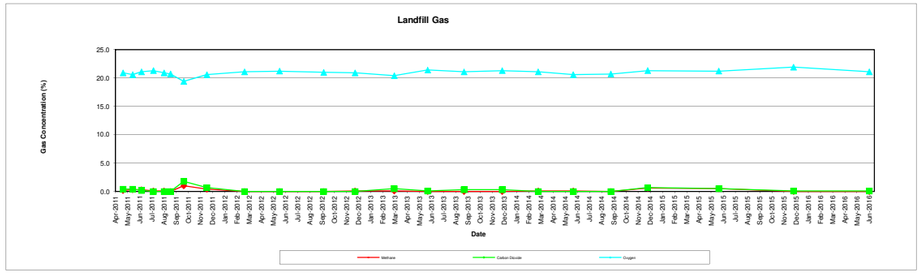
Determinand	Units																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	10/12/15	16/06/16
Time of measurement	-	12.54	12.00	12:19	14:25	12:00	12:21	13:21	12:28	13:26	12:34	14:22	13:57	09:30	12:51	12:29	12:53	12:37	12:16	12:34	14:14	13:37	11:52	14:12
Methane	% vol	<0.1	0.1	<0.1	0.90	0.10	0.30	<0.1	1.10	<0.1	<0.1	0.10	<0.1	0.5	<0.1	<0.1	0.3	0.1	0.1	<0.1	1.4	1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	0.1	<0.1	1.00	0.10	0.20	<0.1	1.00	<0.1	<0.1	0.30	<0.1	0.5	<0.1	0.1	0.5	<0.1	<0.1	<0.1	1.2	0.9	<0.1	0.1
Oxygen	% vol	21.3	20.9	21.2	20.50	20.90	20.60	20.80	20.60	21.00	21.20	20.70	21.50	20.8	21.5	21.4	21.2	21.1	20.5	20.7	21	21	22	21.1
Atmospheric Pressure	mbars	1010	1003	1007	1012	1010	995	989	997	1020	1016	1008	1002	991	1024	1008	1013	1026	1007	1014	987	1002	1001	997
Gas Pressure	mbars	0.01	0.00	0.00	-0.04	0.01	-0.03	0.18	0.18	0.07	-0.12	-0.35	-0.07	0.09	-0.12	0.02	<0.01	-0.15	-0.46	-0.04	0.41	-0.07	-0.14	0.34
Gas Flow Rate	l/hr	0.1	0.1	<0.1	0.3	<0.1	<0.1	0.7	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.3	<0.1	0.1	<0.1	0.5	0.2	0.4	0.3



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	GV97

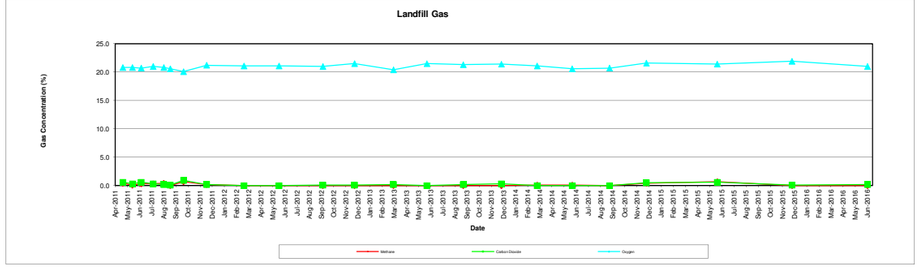
Determinand	Units																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	10/12/15	16/06/16
Time of measurement	-	12.56	12.03	12:22	14:29	12:03	12:24	13:24	12:31	13:29	12:31	14:26	14:35	13:40	12:55	12:27	12:56	12:34	12:13	12:31	14:18	13:34	11:56	14:09
Methane	% vol	0.2	0.3	0.3	0.10	0.10	<0.1	1.00	0.40	<0.1	<0.1	<0.1	0.10	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.6	0.5	<0.1	<0.1
Carbon Dioxide	% vol	0.4	0.4	0.2	<0.1	<0.1	<0.1	1.80	0.70	<0.1	<0.1	<0.1	<0.1	0.5	0.1	0.3	0.3	<0.1	<0.1	<0.1	0.7	0.5	0.1	0.1
Oxygen	% vol	20.9	20.6	21.1	21.30	20.90	20.70	19.40	20.60	21.10	21.20	21.00	20.90	20.4	21.4	21.1	21.3	21.1	20.6	20.7	21.3	21.2	21.9	21.1
Atmospheric Pressure	mbars	1010	1003	1007	1011	1010	995	990	997	1021	1016	1009	1005	989	1024	1008	1013	1026	1007	1014	988	1002	1001	997
Gas Pressure	mbars	-0.04	0.00	0.00	<0.01	0.01	<0.01	0.57	<0.1	0.05	-0.14	0.11	-0.09	-0.1	-0.07	0.14	-0.15	-0.16	-0.48	-0.18	0.33	-0.03	-0.09	-0.02
Gas Flow Rate	l/hr	0.2	0.2	<0.1	0.3	<0.1	<0.1	0.5	0.2	-0.2	<0.1	-0.10	<0.1	0.3	0.1	0.2	0.2	<0.1	<0.1	-0.3	0.5	0.1	0.1	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV98**

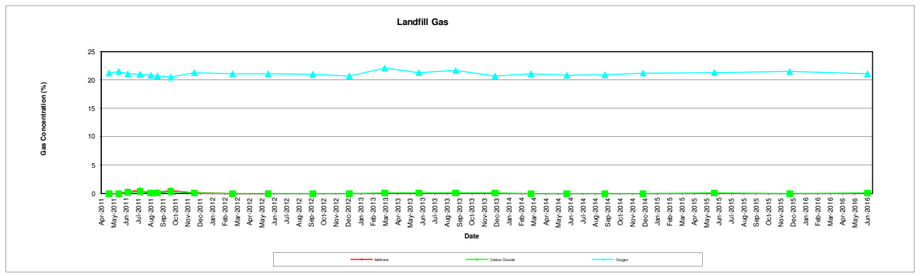
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	10/12/15	16/06/16
Time of measurement	-	12.59	12.06	12:31	14:33	12:06	12:27	13:27	12:35	13:33	12:29	14:32	14:00	13:37	12:57	12:24	12:58	12:32	12:10	12:28	14:23	13:32	12:00	14:07
Methane	% vol	0.4	0.1	0.3	0.30	0.40	<0.1	0.70	0.20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.4	0.7	<0.1	<0.1
Carbon Dioxide	% vol	0.6	0.3	0.6	0.30	0.20	0.10	0.90	0.20	<0.1	<0.1	0.10	0.10	0.2	<0.1	0.2	0.3	<0.1	<0.1	<0.1	0.5	0.6	0.1	0.2
Oxygen	% vol	20.8	20.8	20.7	21.00	20.80	20.60	20.10	21.20	21.10	21.10	21.00	21.50	20.4	21.5	21.3	21.4	21.1	20.6	20.7	21.6	21.4	21.9	21
Atmospheric Pressure	mbars	1010	1003	1007	1012	1010	995	989	997	1020	1018	1009	1002	988	1024	1008	1013	1026	1006	1014	988	1002	1002	997
Gas Pressure	mbars	0.01	0.00	0.00	-0.10	-0.02	<0.01	-0.45	<0.1	0.08	-0.03	-0.15	<0.05	-0.07	-0.03	-0.05	-0.07	-0.15	-0.45	-0.09	0.12	-0.09	-0.19	0.15
Gas Flow Rate	l/hr	0.1	<0.1	<0.1	0.3	<0.1	<0.1	-1.1	-0.6	0.4	<0.1	N/A	0.10	0.4	0.1	0.2	0.1	<0.1	0.1	0.1	0.3	0.3	0.3	0.2
			Tap found removed from vent. Located some distance away and replaced.					Gas tap missing		Gas tap requires replacing.			Gas tap missing.											



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV99**

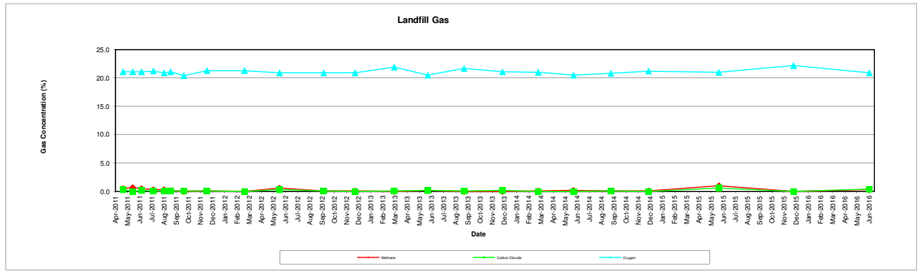
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	18/12/12	15/03/13	07/06/13	06/09/13	11/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	14.55	14.24	15:39	13:49	11:27	11:47	12:50	11:54	13:38	13:05	15:04	10:42	10:08	15:33	13:06	09:47	13:06	12:46	13:03	11:57	14:11	14:17	14:45
Methane	% vol	<0.1	<0.1	0.3	0.50	0.10	0.20	0.50	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	0.2	0.30	0.10	0.10	0.30	0.10	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1
Oxygen	% vol	21.2	21.5	21.1	21.00	20.80	20.70	20.50	21.30	21.10	21.10	21.00	20.70	22.1	21.3	21.7	20.7	21.1	20.8	20.9	21.2	21.3	21.5	21.1
Atmospheric Pressure	mbars	1010	1002	1002	1012	1010	996	991	998	1021	1016	1009	1013	991	1024	1009	1015	1027	1007	1015	984	1002	999	998
Gas Pressure	mbars	0.00	0.00	0.00	-0.05	<0.01	-0.06	0.03	0.13	<0.01	-0.24	<0.01	-0.21	-0.02	0.05	-0.09	0.24	-0.22	-0.47	-0.26	0.28	-0.03	-0.03	<0.01
Gas Flow Rate	l/hr	0.2	0.3	<0.1	<0.1	-0.1	<0.1	-0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.3	0.1	0.3	0.2	<0.1	<0.1	-0.1	-0.4	0.3	0.2	0.4



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	GV101

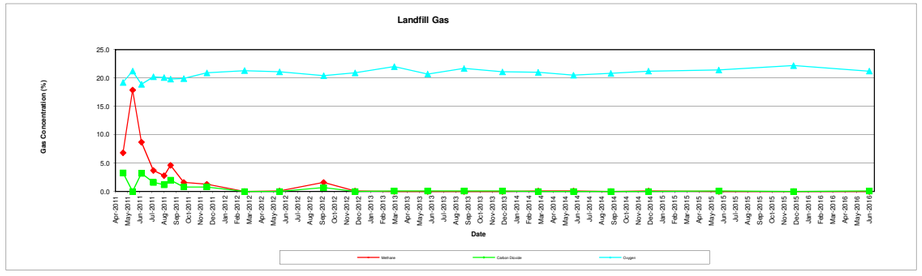
Determinand	Units																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	10/12/15	16/06/16
Time of measurement	-	13.19	12.31	12:54	15:00	12:25	12:49	14:02	13:00	14:02	13:11	14:59	15:01	10:21	14:18	13:09	13:51	13:15	14:06	13:09	11:54	14:15	12:09	14:49
Methane	% vol	0.5	0.7	0.5	0.30	0.30	0.20	<0.1	0.10	<0.1	0.60	0.10	0.10	<0.1	0.2	<0.1	<0.1	0.1	0.2	0.1	0.1	1	<0.1	0.3
Carbon Dioxide	% vol	0.3	0.0	0.2	0.10	0.10	0.10	0.10	0.10	<0.1	0.30	0.10	<0.1	0.1	0.2	0.1	0.2	<0.1	<0.1	0.1	<0.1	0.6	<0.1	0.4
Oxygen	% vol	21.1	21.1	21.1	21.20	20.90	21.10	20.40	21.30	21.30	20.90	20.90	20.90	21.9	20.5	21.7	21.1	21	20.5	20.8	21.2	21	22.2	20.9
Atmospheric Pressure	mbars	1010	1003	1007	1012	1010	995	990	997	1021	1016	1009	1005	991	1023	1009	1012	1026	1007	1014	984	1002	1005	998
Gas Pressure	mbars	0.01	0.00	0.00	-0.02	<0.01	-0.09	0.11	<0.1	-0.04	-0.24	-0.03	-0.13	-0.14	0.41	-0.09	-0.1	-0.17	-0.44	-0.14	-0.26	0.02	-0.04	0.38
Gas Flow Rate	l/hr	0.1	0.2	<0.1	0.1	<0.1	0.2	0.1	<0.1	-0.2	<0.1	<0.1	-0.10	0.1	0.1	0.4	0.2	<0.1	0.1	<0.1	-0.2	0.3	<0.1	0.3



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV102**

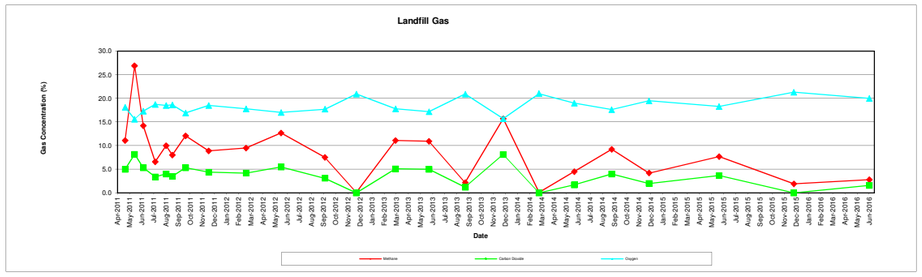
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	10/12/15	16/06/16
Time of measurement	-	13.15	12.27	12:50	14:53	12:22	12:46	14:05	12:57	13:59	13:14	14:55	14:58	10:25	14:15	13:12	13:49	13:17	14:03	13:12	11:52	14:18	12:06	14:52
Methane	% vol	6.8	17.9	8.7	3.70	2.80	4.60	1.60	1.30	<0.1	0.10	1.60	0.10	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	3.3	0.0	3.2	1.60	1.20	2.00	0.80	0.80	<0.1	<0.1	0.70	<0.1	0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1
Oxygen	% vol	19.2	21.2	18.9	20.20	20.10	19.80	19.90	20.90	21.30	21.10	20.40	20.90	22	20.7	21.7	21.1	21	20.5	20.8	21.2	21.4	22.2	21.2
Atmospheric Pressure	mbars	1010	1003	1007	1012	1010	995	990	997	1020	1015	1009	1005	990	1023	1008	1012	1026	1007	1014	984	1002	1005	998
Gas Pressure	mbars	0.01	0.00	0.00	-0.20	0.01	-0.17	-0.07	<0.1	0.14	-0.14	0.02	-0.11	0.15	0.26	-0.05	0.03	-0.19	-0.45	-0.1	-0.86	0.05	-0.04	0.22
Gas Flow Rate	l/hr	0.3	0.6	<0.1	0.2	<0.1	0.2	0.1	<0.1	-0.2	<0.1	<0.1	-0.10	0.3	<0.1	0.3	0.1	<0.1	0.1	<0.1	-0.1	0.3	<0.1	0.4



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV103**

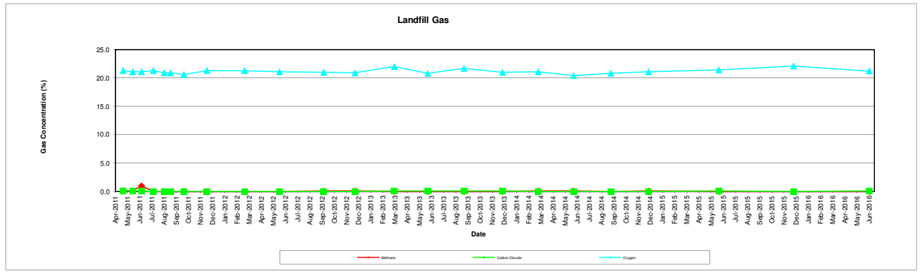
Determinand	**Units**																						
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	10/12/15	16/06/16
Time of measurement	-	13.12	12.22	12:47	14:49	12:19	12:42	14:08	12:53	13:56	13:17	14:51	14:54	10:29	14:12	13:14	13:46	13:20	13:59	13:14	11:49	14:20	12:02	14:55
Methane	% vol	11.1	26.9	14.2	6.60	10.00	8.00	12.10	8.90	9.50	12.70	7.50	0.10	11.1	10.9	2.2	15.7	0.1	4.5	9.2	4.2	7.7	1.9	2.8
Carbon Dioxide	% vol	5.0	8.2	5.3	3.40	4.00	3.50	5.30	4.40	4.20	5.50	3.10	<0.1	5.1	5	1.2	8.1	<0.1	1.7	4	2	3.7	<0.1	1.6
Oxygen	% vol	18.1	15.6	17.3	18.70	18.50	18.60	16.90	18.50	17.80	17.00	17.70	20.90	17.8	17.2	20.9	15.7	21	19	17.6	19.5	18.3	21.3	20
Atmospheric Pressure	mbars	1010	1003	1007	1012	1009	995	989	997	1020	1015	1009	1005	990	1023	1008	1012	1026	1007	1014	984	1002	1005	998
Gas Pressure	mbars	0.01	0.00	0.00	-0.05	0.01	-0.20	-0.04	<0.1	0.11	-0.24	-0.02	0.01	0.14	0.12	-0.12	-0.05	-0.22	-0.43	-0.07	<0.01	0.15	-0.39	-0.07
Gas Flow Rate	l/hr	0.3	0.4	<0.1	0.1	<0.1	-0.3	0.1	<0.1	-0.2	<0.1	<0.1	-0.10	0.3	<0.1	0.3	0.2	<0.1	0.1	0.1	-0.1	0.3	-0.6	0.4
																								Gas tap requires replacing



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	GV104

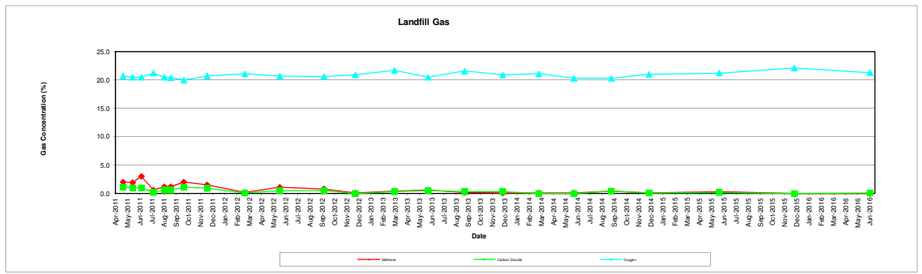
Determinand	Units																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	10/12/15	16/06/16
Time of measurement	-	13.09	12.19	12:44	14:45	12:16	12:39	14:11	12:50	13:53	13:22	14:48	14:51	10:32	14:10	13:17	13:44	13:24	13:57	13:17	11:47	14:23	11:59	14:58
Methane	% vol	0.2	0.1	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	0.10	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1
Oxygen	% vol	21.3	21.1	21.1	21.30	20.90	20.90	20.60	21.30	21.30	21.10	21.00	20.90	22	20.8	21.7	21	21.1	20.4	20.8	21.1	21.4	22.1	21.2
Atmospheric Pressure	mbars	1010	1003	1007	1012	1010	995	989	997	1020	1015	1009	1005	990	1023	1008	1012	1026	1007	1014	984	1002	1005	998
Gas Pressure	mbars	-0.01	0.00	0.00	<0.01	0.01	-0.12	-0.30	<0.1	0.08	-0.19	0.05	-0.07	0.09	0.09	-0.17	-0.07	-0.22	-0.48	-0.07	-0.16	<0.01	-0.35	0.14
Gas Flow Rate	l/hr	0.1	0.6	<0.1	0.1	<0.1	-0.3	0.1	0.4	<0.1	<0.1	<0.1	-0.10	0.4	0.1	0.3	0.3	<0.1	0.2	0.2	<0.1	0.2	-0.2	0.3



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV105**

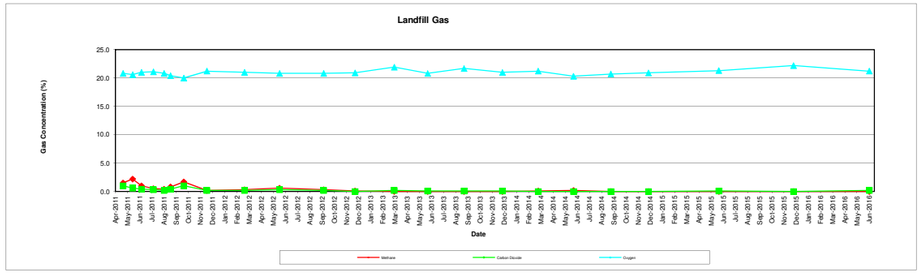
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	10/12/15	16/06/16
Time of measurement	-	13.06	12.16	12:41	14:42	12:12	12:36	14:14	12:47	13:49	13:25	14:44	14:47	10:35	14:07	13:20	13:41	13:27	13:54	13:20	11:45	14:26	11:56	15:01
Methane	% vol	2.0	1.9	3	0.60	1.20	1.20	2.00	1.50	0.20	1.10	0.80	0.10	0.4	0.6	0.2	0.1	0.1	0.1	0.4	0.1	0.3	<0.1	<0.1
Carbon Dioxide	% vol	1.1	1.0	1.0	0.20	0.60	0.60	1.10	0.90	0.10	0.50	0.50	<0.1	0.3	0.5	0.3	0.3	<0.1	<0.1	0.4	0.1	0.2	<0.1	0.1
Oxygen	% vol	20.7	20.5	20.5	21.20	20.50	20.40	20.00	20.70	21.10	20.70	20.60	20.90	21.7	20.5	21.6	20.9	21.1	20.3	20.3	21	21.2	22.1	21.3
Atmospheric Pressure	mbars	1010	1003	1007	1012	1009	995	990	997	1020	1015	1009	1005	990	1023	1008	1012	1026	1007	1014	984	1002	1005	998
Gas Pressure	mbars	0.01	0.00	0.00	-0.20	0.01	-0.09	-0.47	<0.1	0.01	-0.19	0.02	-0.07	0.26	0.03	-0.1	-0.07	-0.23	-0.46	-0.13	-0.42	-0.02	-0.08	<0.01
Gas Flow Rate	l/hr	0.2	0.3	<0.1	0.2	<0.1	-0.2	0.3	-0.2	<0.1	<0.1	<0.1	<0.1	0.4	0.2	0.2	<0.1	0.1	0.1	0.2	<0.1	0.4	-0.6	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	GV106

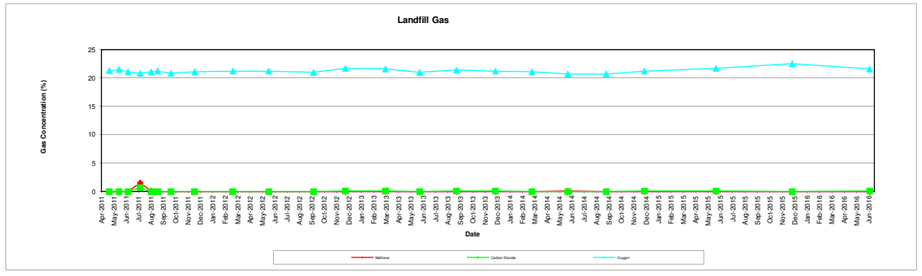
Determinand	Units																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	10/12/15	16/06/16
Time of measurement	-	13.04	12.12	12:37	14:39	12:09	12:33	14:16	12:44	13:45	13:28	14:41	14:42	10:38	14:04	13:23	13:39	13:30	13:51	13:22	11:42	14:29	11:52	15:06
Methane	% vol	1.5	2.2	1	0.50	0.40	0.80	1.70	0.20	0.30	0.60	0.30	0.10	<0.1	<0.1	<0.1	<0.1	0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	1.0	0.6	0.4	0.30	0.20	0.40	1.00	0.20	0.20	0.30	0.20	<0.1	0.2	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.2
Oxygen	% vol	20.8	20.6	21.0	21.10	20.80	20.40	20.00	21.20	21.00	20.80	20.80	20.90	21.9	20.8	21.7	21	21.2	20.3	20.7	20.9	21.3	22.2	21.2
Atmospheric Pressure	mbars	1010	1003	1007	1011	1010	995	990	997	1020	1015	1009	1005	990	1022	1008	1012	1026	1007	1014	984	1002	1005	998
Gas Pressure	mbars	0.01	0.00	0.00	0.05	<0.01	-0.08	-0.22	<0.1	0.26	-0.19	-0.06	-0.11	0.12	<0.01	-0.14	<0.01	-0.21	-0.47	-0.11	-0.41	0.02	0.01	0.19
Gas Flow Rate	l/hr	0.1	-0.3	<0.1	-0.1	<0.1	-0.4	-0.2	-0.2	-0.5	<0.1	<0.1	<0.1	0.4	0.1	0.2	0.1	<0.1	0.1	<0.1	-0.2	0.3	-0.2	0.1



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	GV107

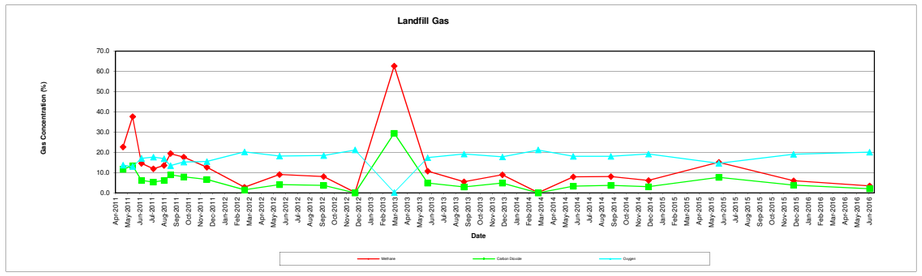
Determinand	Units																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	10/12/15	17/06/16
Time of measurement	-	14.19	14.37	15:10	15:04	12:33	12:56	15:22	14:18	14:49	14:01	15:15	14:26	11:31	15:11	15:05	14:53	15:00	14:42	14:30	12:29	14:55	11:04	09:57
Methane	% vol	<0.1	<0.1	<0.1	1.50	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	0.70	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1
Oxygen	% vol	21.3	21.5	21.1	20.80	21.10	21.20	20.80	21.10	21.20	21.20	21.00	21.70	21.6	21	21.4	21.2	21.1	20.7	20.7	21.2	21.7	22.5	21.6
Atmospheric Pressure	mbars	1010	1002	1007	1012	1010	995	989	996	1021	1015	1009	1003	990	1023	1009	1013	1027	1007	1014	984	1002	1001	999
Gas Pressure	mbars	0.00	0.00	0.00	-0.10	-0.05	-0.05	-0.19	0.11	0.05	-0.17	0.04	0.10	0.22	0.07	0.05	-0.38	-0.2	-0.48	-0.07	-0.12	-0.03	0.07	-0.03
Gas Flow Rate	l/hr	0.2	-0.3	<0.1	0.1	<0.1	<0.1	-0.6	<0.1	0.1	<0.1	<0.1	<0.1	0.2	0.1	0.1	<0.1	<0.1	0.1	0.3	-0.8	0.3	0.3	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV108**

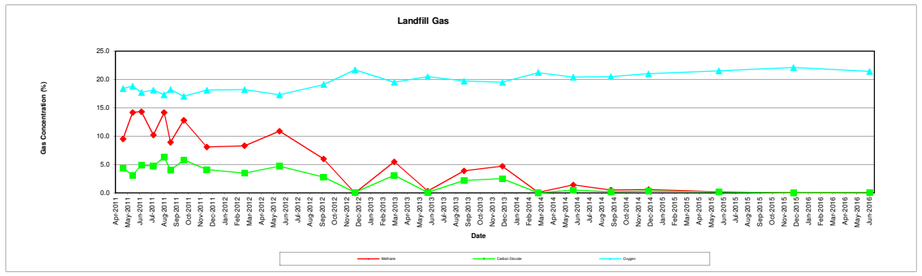
Determinand	**Units**																						
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	10/12/15	17/06/16
Time of measurement	-	14.12	14.14	15:14	16:17	12:35	12:59	14:45	14:21	14:52	14:04	15:19	10:01	11:26	15:08	15:07	14:56	14:20	12:54	14:32	12:31	14:51	11:14	09:54
Methane	% vol	22.7	37.6	14.6	11.90	13.60	19.40	17.70	12.70	2.80	9.10	8.10	0.20	62.6	10.7	5.5	9	0.1	7.9	8.1	6.1	15.1	6	3.5
Carbon Dioxide	% vol	11.7	13.4	6.2	5.40	6.20	9.00	7.90	6.70	1.50	4.10	3.70	<0.1	29.5	4.9	3	4.9	<0.1	3.3	3.7	3.1	7.7	3.8	2
Oxygen	% vol	13.7	13.0	17.0	17.70	16.90	13.50	15.20	15.50	20.20	18.20	18.40	21.20	0.3	17.4	19.2	17.8	21.2	18.1	18.1	19.2	14.6	19.1	20.1
Atmospheric Pressure	mbars	1010	1002	1002	1012	1010	995	989	995	1021	1016	1009	997	990	1023	1008	1013	1027	1006	1014	984	1001	1001	999
Gas Pressure	mbars	0.00	0.00	0.00	<0.01	0.01	<0.01	-0.09	<0.1	0.05	-0.14	0.08	-0.11	0.24	-0.02	0.07	0.1	-0.14	-0.44	-0.1	0.44	0.03	-0.1	-0.05
Gas Flow Rate	l/hr	0.2	0.1	<0.1	0.1	<0.1	0.2	<0.1	<0.1	0.1	-0.10	<0.1	-0.60	0.1	0.1	0.2	0.3	<0.1	0.1	<0.1	<0.1	0.3	0.3	0.1
																								Gas tap requires replacing



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV109**

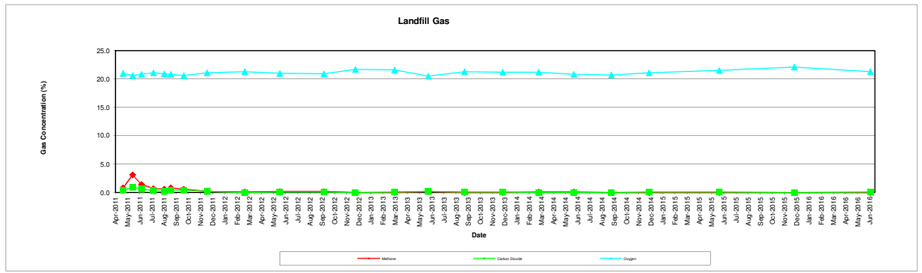
Determinand	**Units**																						
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	10/12/15	17/06/16
Time of measurement	-	13.22	12.36	13:03	15:14	12:38	13:03	14:38	14:24	14:55	14:07	15:22	14:23	11:20	14:20	14:08	13:53	14:17	12:57	13:53	12:33	14:48	12:17	09:51
Methane	% vol	9.5	14.2	14.3	10.20	14.20	8.90	12.80	8.10	8.30	10.90	6.00	<0.1	5.5	0.3	3.9	4.7	0.1	1.4	0.5	0.6	0.2	<0.1	<0.1
Carbon Dioxide	% vol	4.4	3.1	4.9	4.70	6.30	4.00	5.80	4.10	3.50	4.70	2.80	0.10	3.1	0.1	2.2	2.5	<0.1	0.5	0.2	0.3	0.2	<0.1	0.1
Oxygen	% vol	18.4	18.8	17.7	18.10	17.30	18.20	17.00	18.10	18.20	17.30	19.10	21.70	19.5	20.5	19.7	19.5	21.2	20.4	20.5	21	21.5	22.1	21.4
Atmospheric Pressure	mbars	1010	1003	1007	1012	1010	995	990	995	1021	1015	1009	1003	990	1022	1008	1012	1027	1006	1014	984	1002	1005	999
Gas Pressure	mbars	0.01	0.00	0.00	-0.03	0.02	-0.01	-0.23	<0.1	0.07	-0.17	0.09	0.07	0.17	0.21	-0.05	0.03	-0.16	-0.47	-0.02	0.22	-0.02	-0.55	-0.17
Gas Flow Rate	l/hr	0.1	0.3	<0.1	0.1	<0.1	0.2	-0.2	<0.1	0.1	<0.1	<0.1	<0.1	0.4	0.1	0.2	0.2	<0.1	0.1	-0.1	0.1	0.3	<0.1	0.3
																								Gas tap requires replacing



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV110**

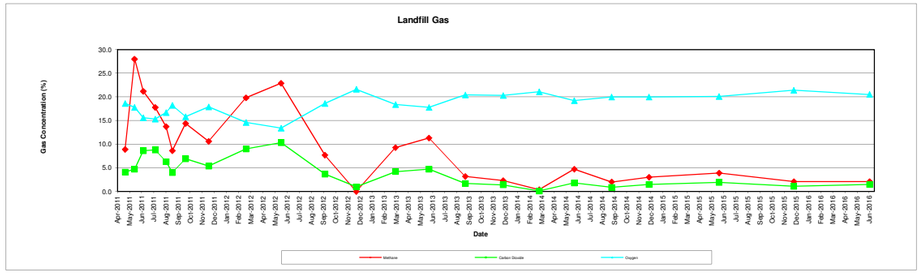
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	10/12/15	17/06/16
Time of measurement	-	13.25	12.39	13:07	15:19	12:41	13:06	14:36	14:27	14:59	14:10	15:25	14:20	11:17	14:23	14:03	13:56	14:14	13:00	13:51	12:35	14:45	12:15	09:48
Methane	% vol	0.8	3.1	1.4	0.70	0.60	0.80	0.60	0.20	0.10	0.20	0.20	<0.1	<0.1	0.2	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.4	0.9	0.6	0.30	0.20	0.40	0.40	0.20	<0.1	0.10	0.10	0.01	0.1	0.2	0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1
Oxygen	% vol	21.0	20.6	20.8	21.10	20.90	20.80	20.60	21.10	21.30	21.00	20.90	21.70	21.6	20.5	21.3	21.2	21.2	20.8	20.7	21.1	21.5	22.1	21.3
Atmospheric Pressure	mbars	1010	1003	1007	1012	1010	995	989	995	1021	1015	1009	1003	990	1023	1008	1012	1026	1006	1014	984	1002	1001	999
Gas Pressure	mbars	0.01	0.00	0.00	-0.03	0.01	-0.08	-0.49	0.10	0.03	-0.15	-0.01	0.14	0.24	0.26	-0.15	0.17	-0.18	-0.46	-0.08	0.26	-0.05	-0.05	-0.07
Gas Flow Rate	l/hr	<0.1	0.5	<0.1	0.1	<0.1	0.2	0.1	<0.1	-0.1	<0.1	<0.1	<0.1	0.3	0.1	<0.1	0.2	<0.1	0.1	<0.1	0.1	0.2	0.3	0.3



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

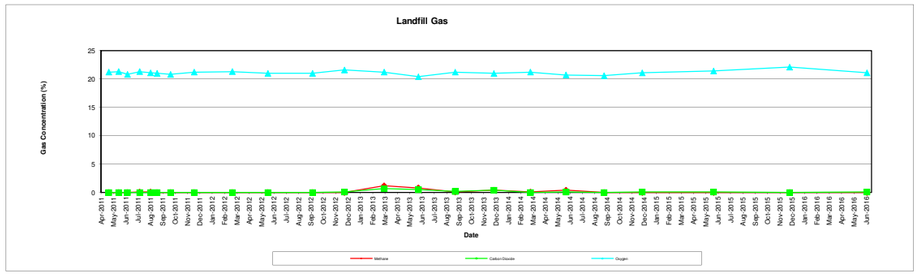
Sampling Location	GV111

Determinand	Units																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	10/12/15	17/06/16
Time of measurement	-	13.29	12.43	13:10	15:28	12:44	13:10	14:31	14:30	15:04	14:12	15:29	14:17	11:14	14:25	14:00	13:59	14:11	13:04	13:48	12:37	14:42	12:14	09:45
Methane	% vol	8.9	28.0	21.2	17.80	13.70	8.60	14.40	10.60	19.80	22.90	7.70	<0.1	9.3	11.3	3.2	2.3	0.4	4.7	2	3	3.9	2.1	2.1
Carbon Dioxide	% vol	4.1	4.7	8.6	8.80	6.30	4.00	6.90	5.40	9.00	10.30	3.70	1.00	4.2	4.7	1.7	1.4	0.1	1.8	0.9	1.5	1.9	1.1	1.5
Oxygen	% vol	18.6	17.8	15.6	15.30	16.70	18.20	15.80	17.90	14.60	13.40	18.60	21.60	18.4	17.8	20.4	20.3	21.1	19.2	20	20	20.1	21.4	20.5
Atmospheric Pressure	mbars	1010	1003	1007	1012	1010	995	989	995	1021	1015	1009	1003	990	1023	1008	1012	1026	1006	1014	984	1002	1005	999
Gas Pressure	mbars	0.00	0.00	0.00	-0.01	-0.01	<0.01	-0.24	-0.20	0.04	-0.16	0.15	0.15	0.19	0.34	-0.12	-0.02	-0.15	-0.46	-0.15	0.3	-0.05	-0.23	0.03
Gas Flow Rate	l/hr	0.1	-0.4	<0.1	0.1	<0.1	<0.1	-0.1	0.1	<0.1	<0.1	<0.1	0.10	0.5	0.1	<0.1	0.1	<0.1	<0.1	-0.4	0.1	0.2	<0.1	0.2
																	Gas tap broken							



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

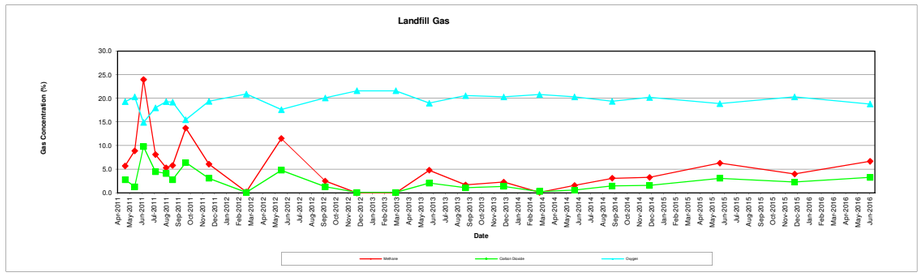
Sampling Location	GV112																							
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	10/12/15	17/06/16
Time of measurement	-	13.32	12.48	14:18	15:31	12:47	13:14	14:28	14:33	15:07	14:15	15:33	14:14	11:11	14:28	13:56	14:01	14:06	13:07	13:46	12:39	14:40	12:11	09:43
Methane	% vol	<0.1	<0.1	<0.1	0.10	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.2	0.8	0.1	0.4	0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	0.7	0.5	0.2	0.4	<0.1	0.1	<0.1	0.1	0.1	<0.1	0.1
Oxygen	% vol	21.2	21.3	20.8	21.30	21.10	21.00	20.80	21.20	21.30	21.00	21.00	21.60	21.2	20.4	21.2	21	21.2	20.7	20.6	21.1	21.4	22.1	21.1
Atmospheric Pressure	mbars	1010	1003	1002	1012	1010	995	989	995	1021	1015	1009	1003	990	1023	1008	1012	1026	1006	1014	984	1002	1001	999
Gas Pressure	mbars	0.01	0.00	0.00	0.03	0.02	<0.01	-0.07	0.11	0.02	-0.15	0.10	314.00	0.03	-0.07	-0.14	<0.01	-0.18	-0.45	-0.09	0.2	0.03	-0.1	-0.12
Gas Flow Rate	l/hr	<0.1	0.5	<0.1	0.2	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	0.1	0.2	0.4	<0.1	0.1	0.2	-0.2	0.3	0.4	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV113**

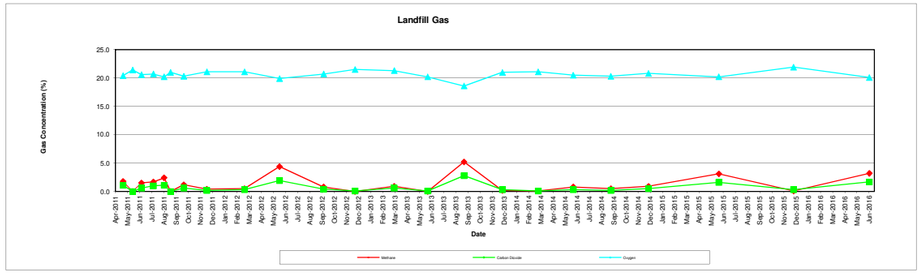
Determinand	**Units**																						
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	10/12/15	16/06/16
Time of measurement	-	13.35	12.51	14:23	15:35	12:50	13:17	14:26	14:41	15:12	14:19	15:36	14:10	11:07	14:31	13:54	14:04	14:03	13:10	13:43	12:41	14:37	12:07	15:20
Methane	% vol	5.7	8.9	24	8.10	5.30	5.80	13.70	6.10	0.20	11.50	2.50	<0.1	<0.1	4.8	1.7	2.3	0.1	1.6	3.1	3.3	6.3	4	6.7
Carbon Dioxide	% vol	2.8	1.3	9.8	4.50	4.10	2.80	6.40	3.10	0.10	4.80	1.30	0.10	0.1	2.1	1.1	1.4	0.3	0.6	1.5	1.6	3.1	2.3	3.3
Oxygen	% vol	19.3	20.3	14.9	18.00	19.30	19.20	15.50	19.40	20.90	17.60	20.10	21.60	21.6	19	20.6	20.3	20.8	20.3	19.4	20.2	18.9	20.3	18.8
Atmospheric Pressure	mbars	1010	1003	1002	1012	1010	995	989	995	1021	1015	1009	1003	990	1023	1008	1012	1026	1006	1014	984	1002	1001	998
Gas Pressure	mbars	0.01	0.00	0.00	0.03	<0.01	0.03	<0.01	<0.1	0.07	-0.16	0.35	0.17	0.1	-0.09	-0.17	0.03	-0.19	-0.47	-0.14	0.19	-0.02	0.05	<0.01
Gas Flow Rate	l/hr	0.4	0.4	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.10	<0.1	0.4	0.2	0.2	0.1	<0.1	0.1	0.1	0.1	0.3	0.3	0.2
																								Gas tap requires replacing



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV114**

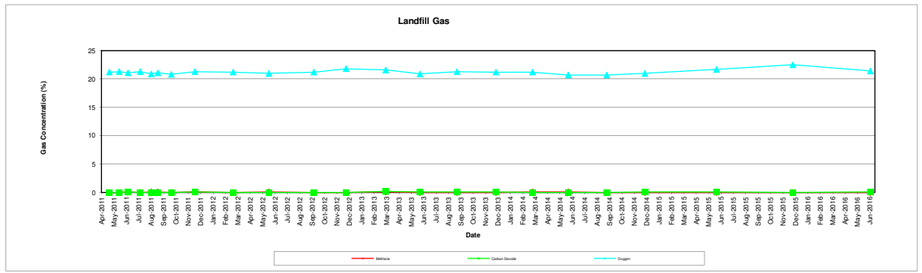
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	10/12/15	16/06/16
Time of measurement	-	13.38	12.55	14:27	15:39	12:53	13:20	14:23	14:45	15:15	14:22	15:40	14:04	11:05	14:35	14:31	14:07	14:00	13:13	13:40	12:43	14:34	12:04	15:13
Methane	% vol	1.8	<0.1	1.5	1.70	2.40	<0.1	1.20	0.40	0.50	4.40	0.80	<0.1	0.9	<0.1	5.2	0.2	0.1	0.8	0.5	0.9	3.1	0.1	3.2
Carbon Dioxide	% vol	1.1	<0.1	0.6	1.00	1.10	<0.1	0.60	0.20	0.30	1.90	0.40	0.10	0.6	0.1	2.8	0.3	0.1	0.3	0.2	0.5	1.6	0.3	1.7
Oxygen	% vol	20.4	21.4	20.6	20.70	20.20	21.00	20.30	21.10	21.10	19.90	20.70	21.50	21.3	20.2	18.6	21	21.1	20.5	20.3	20.8	20.2	21.9	20.1
Atmospheric Pressure	mbars	1010	1003	1002	1011	1010	995	989	995	1021	1015	1009	1002	990	1023	1008	1012	1026	1006	1014	984	1001	1001	998
Gas Pressure	mbars	0.01	0.00	0.00	<0.01	0.02	-0.07	-0.61	<0.1	0.08	-0.16	0.06	0.03	0.21	0.03	-0.15	0.09	-0.2	-0.47	-0.1	0.35	-0.02	-0.12	-0.31
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	-0.5	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	0.1	0.1	<0.1	0.1	0.2	0.1	0.2	0.3	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV115**

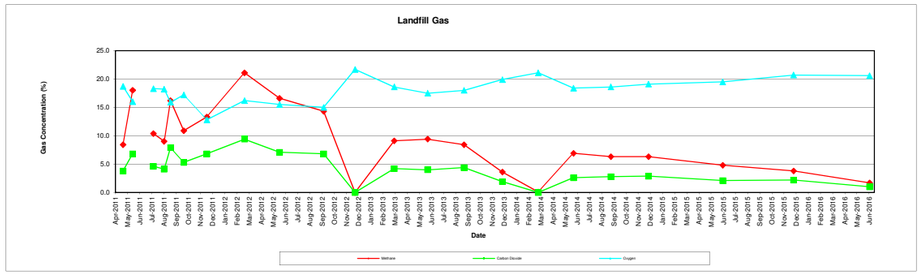
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	10/12/15	17/06/16
Time of measurement	-	14.09	14.08	15:06	16:12	13:23	13:55	14:48	15:22	15:54	15:03	16:35	14:48	11:35	15:05	14:46	14:48	14:24	14:35	14:24	13:00	14:58	11:17	11:00
Methane	% vol	<0.1	<0.1	0.1	<0.1	0.10	0.10	<0.1	0.10	<0.1	0.10	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.2	0.1	0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1
Oxygen	% vol	21.2	21.3	21.1	21.30	20.90	21.10	20.80	21.30	21.20	21.00	21.20	21.80	21.6	20.9	21.3	21.2	21.2	20.7	20.7	21	21.7	22.5	21.4
Atmospheric Pressure	mbars	1010	1002	1002	1012	1010	995	989	994	1021	1015	1009	1004	990	1023	1009	1013	1027	1007	1014	984	1002	1001	999
Gas Pressure	mbars	0.01	0.00	0.00	-0.03	0.02	-0.14	-0.27	0.12	0.08	-0.20	0.13	0.10	0.15	<0.01	-0.14	0.02	-0.22	-0.46	0.02	0.23	<0.01	-0.17	0.09
Gas Flow Rate	l/hr	0.1	0.2	<0.1	-0.1	<0.1	0.1	-0.7	-0.4	<0.1	0.1	-0.1	<0.1	0.3	0.2	0.2	0.1	<0.1	0.1	0.4	0.1	0.3	0.2	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	GV116

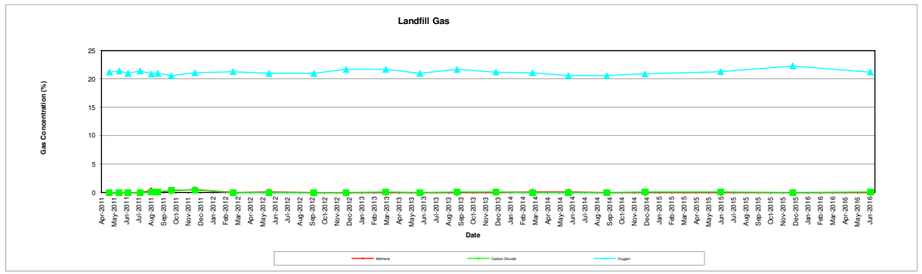
Determinand	Units																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	15/06/15	10/12/15	17/06/16
Time of measurement	-	14.03	14.01		16:04	12:15	13:48	15:12	15:13	15:46	14:54	16:28	14:36	12:12	15:02	14:35	14:40	14:51	14:30	14:18	13:08	11:21	11:22	10:57
Methane	% vol	8.4	18.0		10.40	9.00	16.20	10.90	13.30	21.10	16.60	14.30	<0.1	9.1	9.4	8.4	3.6	0.1	6.9	6.3	6.3	4.8	3.8	1.7
Carbon Dioxide	% vol	3.8	6.8		4.60	4.10	7.90	5.30	6.80	9.40	7.10	6.80	<0.1	4.2	4	4.4	1.9	<0.1	2.6	2.8	2.9	2.1	2.2	1
Oxygen	% vol	18.7	16.0		18.30	18.20	15.90	17.20	12.80	16.20	15.50	15.00	21.70	18.6	17.5	18	19.9	21.1	18.4	18.6	19.1	19.5	20.7	20.6
Atmospheric Pressure	mbars	1010	1002		1012	1010	995	989	994	1021	1015	1009	1003	990	1023	1008	1013	1027	1007	1014	984	1017	1001	999
Gas Pressure	mbars	0.00	0.00		-0.03	-0.01	0.01	-0.11	0.22	0.07	-0.16	0.09	-0.05	0.12	0.02	-0.05	0.14	-0.17	-0.44	-0.08	0.29	<0.01	<0.01	-0.07
Gas Flow Rate	l/hr	0.2	0.2		0.1	<0.1	<0.1	-0.4	-0.2	<0.1	0.1	<0.1	<0.1	0.1	0.1	0.1	-0.1	<0.1	0.1	0.3	<0.1	0.1	0.3	0.3
				Accidentally missed																				



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV117**

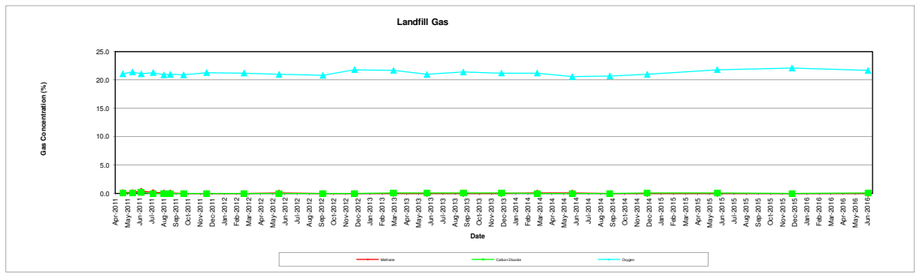
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	15/06/15	10/12/15	17/06/16
Time of measurement	-	13.59	13.54	14:50	15:58	12:09	13:41	15:06	15:06	15:39	14:46	16:16	14:42	12:06	14:54	14:09	14:27	14:45	14:24	14:13	13:14	11:24	11:35	10:55
Methane	% vol	<0.1	<0.1	0	<0.1	0.30	0.10	0.30	0.50	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	0	<0.1	0.10	0.10	0.40	0.40	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1
Oxygen	% vol	21.2	21.4	21.0	21.40	20.90	21.00	20.60	21.10	21.30	21.00	21.00	21.70	21.7	21	21.7	21.2	21.1	20.6	20.6	20.9	21.3	22.3	21.2
Atmospheric Pressure	mbars	1010	1002	1002	1012	1010	995	989	994	1021	1014	1009	1003	990	1023	1008	1012	1027	1006	1014	984	1016	1001	999
Gas Pressure	mbars	0.00	0.00	0.00	0.04	0.03	-0.05	0.14	0.11	<0.01	-0.25	0.08	0.05	-0.07	0.05	-0.14	0.05	-0.17	-0.45	-0.38	0.53	-0.02	-0.12	-0.03
Gas Flow Rate	l/hr	0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	-0.1	0.1	<0.1	<0.1	0.1	<0.1	0.2	0.1	<0.1	0.1	-0.3	0.1	0.1	0.4	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV118**

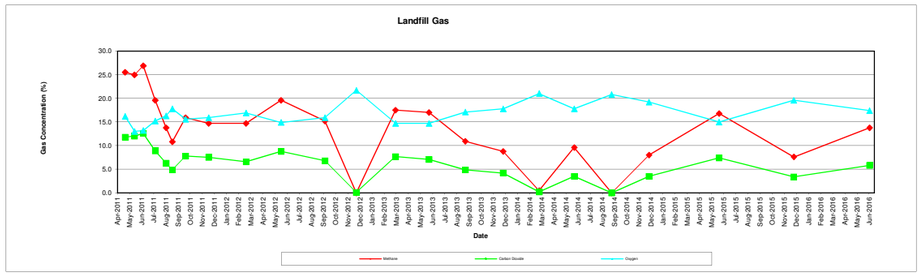
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	10/12/15	17/06/16
Time of measurement	-	13.55	13.50	14:45	15:55	13:17	13:37	14:51	15:01	15:34	14:43	16:12	03:45	11:39	14:51	14:12	14:22	14:27	14:09	13:56	12:58	15:01	12:18	10:03
Methane	% vol	0.2	0.2	0.4	0.20	0.10	0.10	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.1	0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1
Oxygen	% vol	21.1	21.4	21.1	21.30	20.90	21.00	20.90	21.30	21.20	21.00	20.80	21.80	21.7	21	21.4	21.2	21.2	20.6	20.7	21	21.8	22.1	21.7
Atmospheric Pressure	mbars	1010	1002	1002	1011	1010	995	989	994	1021	1015	1009	1004	990	1023	1008	1012	1027	1007	1014	984	1001	1001	999
Gas Pressure	mbars	0.01	0.00	0.00	-0.03	-0.01	0.01	-0.45	<0.1	0.13	-0.14	0.01	0.12	0.15	-0.02	-0.21	0.17	-0.15	-0.48	-0.19	0.2	<0.01	-0.03	0.03
Gas Flow Rate	l/hr	0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	-0.1	-0.1	<0.1	0.10	<0.1	0.2	0.1	0.1	0.2	<0.1	0.1	0.1	-0.3	0.2	0.3	0.5



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV119**

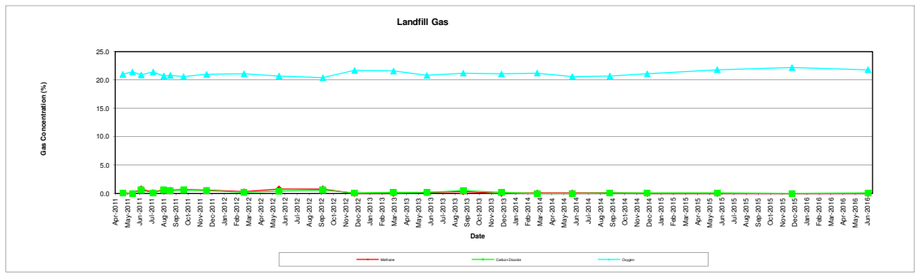
Determinand	**Units**																						
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	10/12/15	17/06/16
Time of measurement	-	13.50	13.46	14:42	15:51	13:05	13:34	14:54	14:58	15:31	14:40	16:09	15:10	11:43	14:48	14:15	14:19	14:30	14:13	13:59	12:55	15:05	12:21	10:06
Methane	% vol	25.5	25.0	26.9	19.60	13.80	10.80	15.90	14.70	14.70	19.60	15.20	<0.1	17.5	17	10.9	8.8	0.5	9.6	<0.1	8	16.8	7.6	13.8
Carbon Dioxide	% vol	11.8	12.0	12.6	8.90	6.30	4.90	7.80	7.50	6.60	8.80	6.80	0.10	7.7	7.1	4.9	4.2	0.2	3.5	<0.1	3.5	7.4	3.4	5.8
Oxygen	% vol	16.2	13.0	13.2	15.20	16.30	17.80	15.60	15.90	16.90	14.90	15.90	21.70	14.7	14.7	17.1	17.8	21	17.8	20.8	19.2	15	19.6	17.4
Atmospheric Pressure	mbars	1010	1002	1002	1011	1009	995	989	994	1021	1014	1009	1004	990	1023	1008	1012	1027	1007	1014	984	1001	1005	999
Gas Pressure	mbars	0.01	0.00	0.00	-0.01	0.02	<0.01	0.07	-0.27	0.10	-0.21	0.07	0.14	0.12	<0.01	-0.12	0.1	-0.21	-0.43	-0.13	0.27	0.03	-0.76	-0.09
Gas Flow Rate	l/hr	0.2	0.2	<0.1	0.1	<0.1	<0.1	0.2	<0.1	-0.2	<0.1	<0.1	-0.10	0.2	0.2	0.2	0.1	-0.1	0.1	0.1	0.2	0.3	0.1	0.4
																								Gas tap requires replacing



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV120**

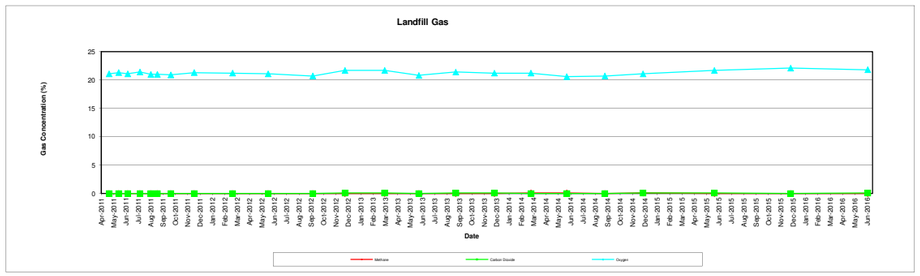
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	10/12/15	17/06/16
Time of measurement	-	13.47	13.42	14:38	15:49	13:03	13:30	14:56	14:55	15:28	14:37	16:05	15:15	11:48	14:45	14:17	14:16	14:34	14:16	14:02	12:52	15:07	12:21	10:08
Methane	% vol	0.1	<0.1	0.8	0.20	0.70	0.60	0.70	0.60	0.30	0.80	0.80	<0.1	<0.1	0.2	0.3	<0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.1	<0.1	0.6	0.10	0.60	0.50	0.60	0.50	0.20	0.40	0.60	0.10	0.2	0.2	0.5	0.2	<0.1	<0.1	0.1	0.1	0.1	<0.1	0.1
Oxygen	% vol	21.0	21.4	20.9	21.40	20.70	20.80	20.60	21.00	21.10	20.70	20.40	21.70	21.6	20.8	21.2	21.1	21.2	20.6	20.7	21.1	21.8	22.2	21.8
Atmospheric Pressure	mbars	1010	1002	1002	1012	1009	995	989	995	1021	1014	1009	1004	990	1023	1008	1012	1027	1007	1014	984	1001	1001	999
Gas Pressure	mbars	0.01	0.00	0.00	<0.01	0.03	-0.01	0.17	<0.1	0.07	-0.21	0.08	0.05	0.14	-0.05	-0.19	0.03	-0.18	-0.45	-0.18	-0.29	<0.01	-0.1	<0.01
Gas Flow Rate	l/hr	0.1	0.1	<0.1	0.2	<0.1	<0.1	0.1	<0.1	-0.2	<0.1	<0.1	<0.1	0.1	0.1	0.2	0.1	<0.1	0.1	<0.1	-0.1	0.3	0.3	0.4



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV121**

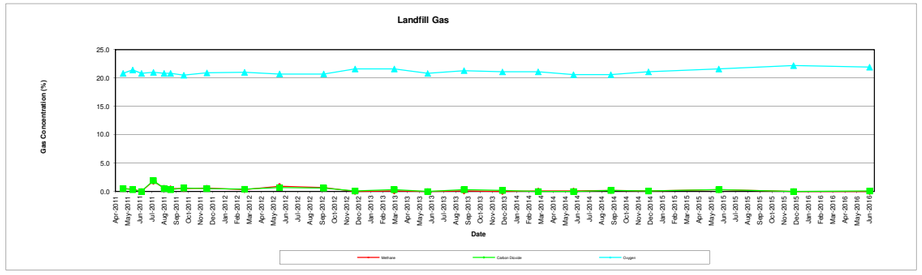
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	10/12/15	17/06/16
Time of measurement	-	13.44	13.39	14:35	15:45	13:00	13:27	14:59	14:52	15:24	14:34	16:02	15:19	11:52	14:43	14:20	14:13	14:37	14:19	14:05	12:49	15:10	12:25	10:11
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1
Oxygen	% vol	21.1	21.3	21.1	21.40	21.00	21.00	20.90	21.30	21.20	21.10	20.70	21.70	21.7	20.8	21.4	21.2	21.2	20.6	20.7	21.1	21.7	22.1	21.8
Atmospheric Pressure	mbars	1010	1002	1002	1011	1009	995	988	995	1021	1015	1009	1004	990	1023	1008	1012	1027	1007	1014	984	1001	1005	999
Gas Pressure	mbars	0.01	0.00	0.00	-0.09	0.01	-0.04	0.18	<0.1	0.05	-0.25	0.02	0.10	0.02	<0.01	-0.21	-0.05	-0.16	-0.45	-0.11	0.32	0.02	-0.13	0.5
Gas Flow Rate	l/hr	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	-0.1	<0.1	<0.1	<0.1	0.2	-0.1	0.3	0.2	<0.1	0.1	0.1	0.3	0.2	0.1	0.3



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	GV122

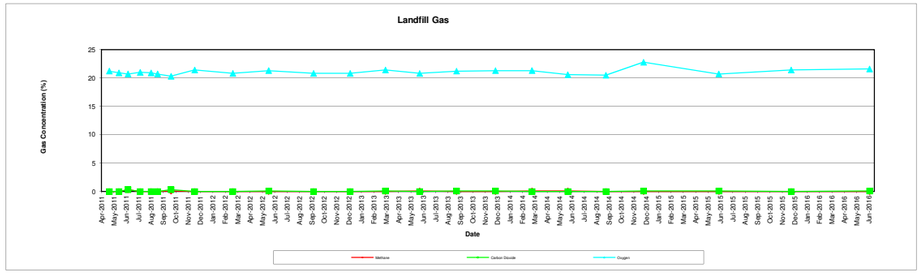
Determinand	Units																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	10/12/15	17/06/16
Time of measurement	-	13.41	12.59	14:31	15:42	12:57	13:24	15:02	14:48	15:20	14:27	15:47	14:07	11:57	14:40	14:23	14:11	14:41	14:22	14:09	12:47	15:13	12:25	10:14
Methane	% vol	0.5	0.4	<0.1	1.80	0.60	0.50	0.50	0.60	0.30	0.90	0.70	<0.1	0.1	<0.1	0.1	<0.1	0.1	0.1	0.2	0.1	0.3	<0.1	<0.1
Carbon Dioxide	% vol	0.5	0.3	<0.1	1.90	0.50	0.30	0.60	0.50	0.40	0.70	0.60	0.10	0.3	<0.1	0.3	0.2	<0.1	<0.1	0.2	0.1	0.3	<0.1	0.1
Oxygen	% vol	20.8	21.4	20.8	21.00	20.80	20.80	20.50	20.90	21.00	20.70	20.70	21.60	21.6	20.8	21.3	21.1	21.1	20.6	20.6	21.1	21.6	22.2	21.9
Atmospheric Pressure	mbars	1010	1003	1002	1011	1009	995	988	994	1021	1015	1009	1002	990	1023	1008	1012	1027	1007	1014	984	1001	1001	999
Gas Pressure	mbars	0.01	0.00	0.00	-0.01	0.05	0.10	0.07	<0.1	-0.01	-0.36	0.14	0.02	0.12	-0.14	0.02	0.09	-0.19	-0.45	-0.1	0.17	<0.01	-0.09	-0.05
Gas Flow Rate	l/hr	0.2	0.2	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.10	0.2	0.1	0.2	<0.1	<0.1	0.1	0.3	-0.4	0.3	0.4	0.3



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	GV123

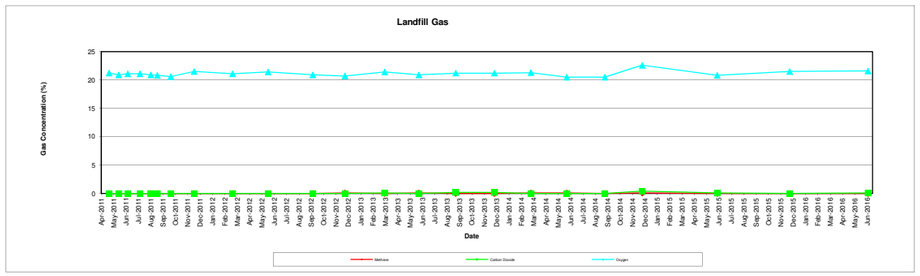
Determinand	Units																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	18/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	12/06/15	08/12/15	17/06/16
Time of measurement	-	9.35	9.20	16:34	17:14	09:09	09:18	10:41	09:09	10:05	14:45	10:29	10:50	14:49	15:37	11:19	12:14	11:16	10:58	11:27	10:48	15:12	10:54	11:30
Methane	% vol	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	0.30	<0.1	<0.1	0.10	<0.1	<0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1
Oxygen	% vol	21.2	20.9	20.7	21.00	20.90	20.70	20.30	21.40	20.80	21.30	20.80	20.80	21.4	20.8	21.2	21.3	21.3	20.6	20.5	22.8	20.7	21.4	21.6
Atmospheric Pressure	mbars	1012	1007	1002	1012	1015	1000	998	1004	1025	1022	1015	1018	994	1025	1013	1018	1030	1012	1019	1005	1012	1004	1005
Gas Pressure	mbars	0.00	0.00	0.00	0.03	<0.01	<0.01	-0.05	0.12	0.04	0.14	0.26	-0.17	-0.1	-0.3	-0.05	0.27	-0.11	-0.39	-0.02	-0.12	-0.03	0.05	-0.03
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.00	0.1	<0.1	0.3	0.2	<0.1	<0.1	-0.1	<0.1	0.2	<0.1	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV124**

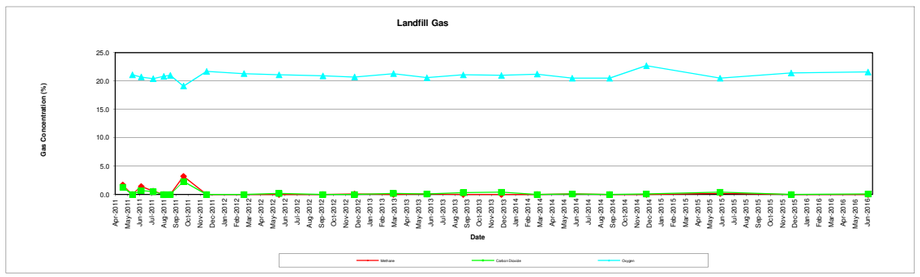
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	12/06/15	08/12/15	17/06/16
Time of measurement	-	9.50	9.27	16:29	17:13	11:09	09:21	10:52	09:15	10:17	14:53	10:33	13:46	14:46	15:35	11:22	12:20	11:19	11:01	11:30	10:54	15:09	10:48	11:34
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.2	0.2	<0.1	<0.1	<0.1	0.4	0.1	<0.1	0.1
Oxygen	% vol	21.2	20.9	21.1	21.10	20.90	20.80	20.60	21.50	21.10	21.40	20.90	20.70	21.4	20.9	21.2	21.2	21.3	20.5	20.5	22.6	20.8	21.5	21.6
Atmospheric Pressure	mbars	1012	1007	1002	1012	1014	1000	997	1003	1024	1021	1014	1008	996	1024	1013	1017	1030	1011	1019	1003	1011	1003	1004
Gas Pressure	mbars	0.01	0.00	0.00	<0.01	-0.05	<0.01	<0.01	0.12	0.21	0.17	0.25	-0.14	-0.1	-0.15	-0.12	0.29	-0.1	-0.46	0.05	0.12	0.05	<0.01	0.03
Gas Flow Rate	l/hr	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	-0.1	0.3	0.1	<0.1	-0.1	-0.1	0.1	0.1	0.2	0.3



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV125**

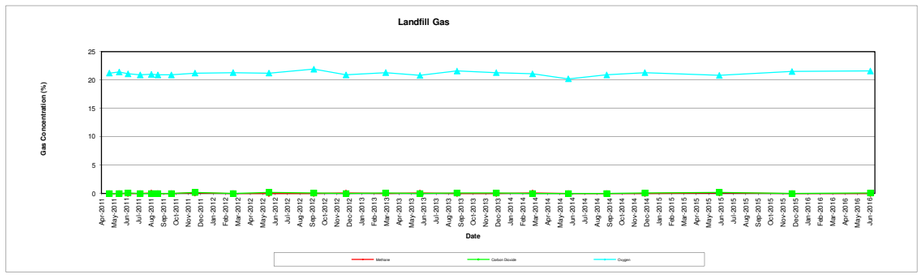
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	12/06/15	08/12/15	17/06/16
Time of measurement	-	11.42	11.08	16:25	17:11	11:13	14:37	12:33	09:32	16:32	14:57	10:41	13:50	14:43	15:21	11:25	12:22	11:22	11:07	11:32	11:05	15:06	11:06	11:36
Methane	% vol	1.7	<0.1	1.4	0.60	<0.1	<0.1	3.20	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	1.3	<0.1	0.7	0.50	<0.1	<0.1	2.30	<0.1	<0.1	0.20	<0.1	<0.1	0.2	0.1	0.3	0.4	<0.1	0.1	<0.1	0.1	0.4	<0.1	0.1
Oxygen	% vol		21.1	20.7	20.40	20.80	21.00	19.10	21.70	21.30	21.10	20.90	20.70	21.3	20.6	21.1	21	21.2	20.5	20.5	22.7	20.5	21.4	21.6
Atmospheric Pressure	mbars	1012	1003	1002	1012	1013	998	994	1002	1024	1020	1013	1008	991	1024	1012	1016	1029	1010	1018	1001	1011	1001	1003
Gas Pressure	mbars	0.12	0.00	0.00	0.00	-0.06	0.08	0.09	0.16	0.11	0.36	0.29	-0.09	-0.07	-0.16	-0.07	0.34	-0.07	-0.43	0.04	0.17	0.02	-0.02	0.03
Gas Flow Rate	l/hr	<0.1	0.2	<0.1	<0.1	<0.1	0.1	0.2	<0.1	-0.2	-0.1	<0.1	<0.1	0.1	-0.1	0.2	0.1	<0.1	-0.2	<0.1	0.1	0.2	0.1	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV126**

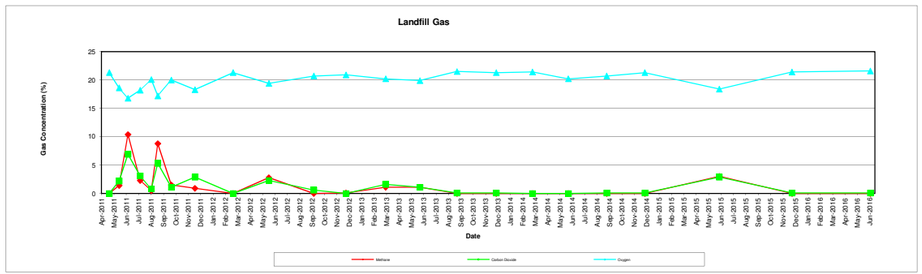
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	11/12/13	10/03/14	06/06/14	08/09/14	11/12/14	12/06/15	08/12/15	17/06/16
Time of measurement	-	15.01	14.47	16:19	17:07	13:54	14:34	15:49	11:28	16:29	15:05	16:31	15:40	14:23	15:18	15:26	10:16	11:29	15:18	15:01	12:05	15:03	13:56	11:39
Methane	% vol	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	0.10	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.20	<0.1	0.20	0.10	<0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.1	0.2	<0.1	0.1
Oxygen	% vol	21.2	21.4	21.1	20.90	21.00	20.90	20.90	21.20	21.30	21.20	21.90	20.90	21.3	20.8	21.6	21.3	21.1	20.2	20.9	21.3	20.8	21.5	21.6
Atmospheric Pressure	mbars	1010	1002	1002	1012	1012	996	991	1001	1024	1019	1013	1009	992	1023	1010	1018	1028	1011	1016	986	1010	1001	1002
Gas Pressure	mbars	0.01	0.05	0.00	0.03	0.01	<0.01	0.28	0.14	0.07	0.12	-0.10	-0.09	0.21	-0.16	0.05	-0.12	-0.12	-0.12	-0.1	-0.07	<0.01	-0.02	0.65
Gas Flow Rate	l/hr	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	-0.1	<0.1	-0.10	<0.1	0.1	-0.1	0.1	0.1	<0.1	0.2	0.2	-0.2	0.1	0.2	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV127**

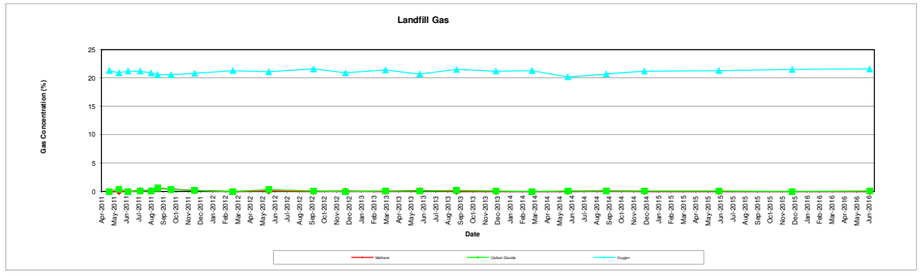
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	11/12/13	10/03/14	06/06/14	08/09/14	11/12/14	12/06/15	08/12/15	17/06/16
Time of measurement	-	14.45	14.54	16:05	17:05	13:51	14:26	15:46	11:34	16:26	15:20	16:28	15:37	14:26	15:12	15:29	10:13	15:25	15:15	14:58	12:08	15:00	14:00	11:41
Methane	% vol	<0.1	1.4	10.4	2.30	0.50	8.80	1.50	0.90	<0.1	2.80	<0.1	0.10	1.1	1.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	3	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	2.2	6.9	3.10	0.80	5.30	1.10	2.90	<0.1	2.30	0.60	<0.1	1.6	1.1	0.1	0.1	<0.1	<0.1	0.1	0.1	2.9	0.1	0.1
Oxygen	% vol	21.3	18.6	16.8	18.20	20.10	17.20	20.00	18.30	21.30	19.40	20.70	20.90	20.2	19.9	21.5	21.3	21.4	20.2	20.7	21.3	18.4	21.4	21.6
Atmospheric Pressure	mbars	1010	1002	1002	1012	1012	997	990	1000	1023	1018	1012	1008	992	1023	1010	1018	1029	1010	1016	987	1010	1001	1002
Gas Pressure	mbars	0.00	0.00	0.00	0.03	<0.01	0.04	-0.05	0.10	0.12	-0.07	0.02	-0.19	0.17	-0.29	-0.02	-0.05	-0.24	-0.07	-0.13	0.19	-0.03	-0.05	0.03
Gas Flow Rate	l/hr	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	-0.10	0.10	<0.1	-0.1	0.2	0.1	<0.1	0.2	0.2	<0.1	0.2	0.2	0.3



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	GV128

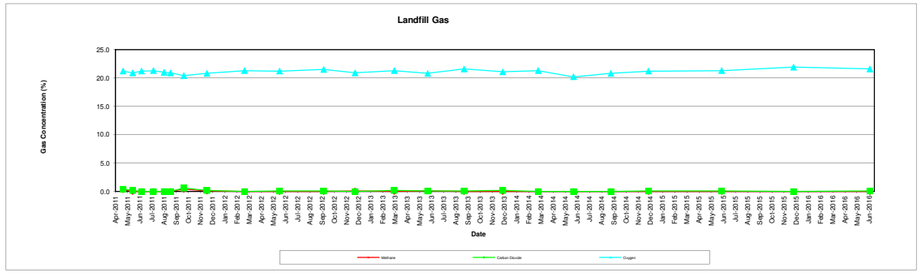
Determinand	Units																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	11/12/13	10/03/14	06/06/14	08/09/14	11/12/14	12/06/15	10/12/15	17/06/16
Time of measurement	-	14.41	14.57	16:02	16:55	13:49	14:23	15:44	14:07	16:23	15:13	16:25	15:34	14:29	15:09	15:32	10:11	15:21	15:12	14:54	12:10	14:54	10:33	11:44
Methane	% vol	<0.1	0.0	<0.1	0.20	0.20	0.60	0.40	0.20	<0.1	0.10	<0.1	0.10	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	0.4	<0.1	0.10	0.10	0.60	0.30	0.20	<0.1	0.30	0.10	<0.1	0.1	0.1	0.2	0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	0.1
Oxygen	% vol	21.3	20.9	21.2	21.20	20.90	20.60	20.60	20.80	21.30	21.10	21.60	20.90	21.4	20.7	21.5	21.2	21.3	20.2	20.7	21.2	21.3	21.5	21.6
Atmospheric Pressure	mbars	1010	1002	1002	1012	1012	997	990	997	1023	1018	1009	1008	991	1023	1010	1018	1029	1010	1016	986	1010	1003	1002
Gas Pressure	mbars	0.01	0.00	0.00	0.04	<0.01	0.02	-0.16	<0.1	0.04	0.05	-0.02	<0.05	0.26	-0.16	0.03	0.09	-0.16	-0.02	-0.12	0.1	-0.05	0.05	<0.01
Gas Flow Rate	l/hr	0.1	0.2	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	0.2	0.1	-0.4	0.1	0.3	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	GV129

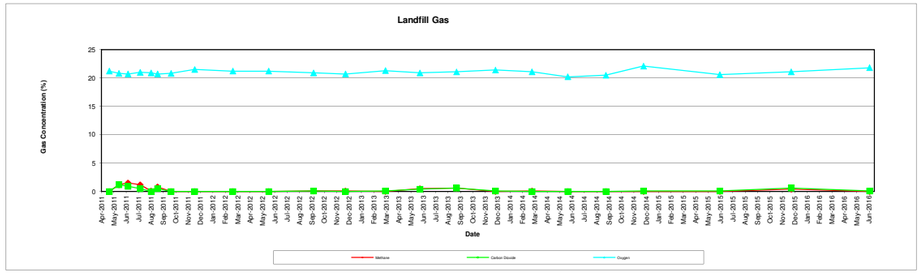
Determinand	Units																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	11/12/13	10/03/14	06/06/14	08/09/14	11/12/14	12/06/15	10/12/15	17/06/16
Time of measurement	-	14.37	15.00	15:59	16:52	13:46	14:20	15:41	14:03	16:20	15:17	16:23	15:30	14:32	15:06	15:36	10:05	15:18	15:09	14:52	12:12	14:49	10:38	11:46
Methane	% vol	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	0.40	0.10	<0.1	<0.1	<0.1	0.10	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.4	0.2	<0.1	<0.1	<0.1	<0.1	0.60	0.20	<0.1	0.10	0.10	<0.1	0.2	0.1	0.1	0.2	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1
Oxygen	% vol	21.2	20.9	21.2	21.30	21.00	20.90	20.40	20.80	21.30	21.20	21.50	20.90	21.3	20.8	21.6	21.1	21.3	20.2	20.8	21.2	21.3	21.9	21.6
Atmospheric Pressure	mbars	1010	1002	1002	1012	1011	996	990	998	1023	1018	1011	1008	991	1023	1010	1017	1028	1010	1016	986	1010	1003	1002
Gas Pressure	mbars	0.01	0.00	0.00	-0.02	<0.01	-0.05	<0.01	0.13	0.06	-0.05	0.12	-0.86	0.14	-0.21	0.07	-0.12	-0.2	-0.15	-0.16	-0.19	<0.01	-0.02	0.05
Gas Flow Rate	l/hr	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	0.1	-0.1	<0.1	<0.1	0.2	0.1	<0.1	0.2	0.2	-0.3	0.1	0.4	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	GV130

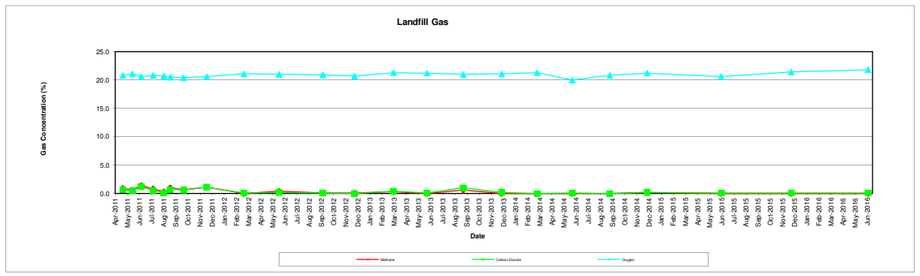
Determinand	Units																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	08/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	15/06/15	08/12/15	17/06/16
Time of measurement	-	12.16	11.28	16:16	17:01	10:51	11:12	12:37	11:24	12:18	11:06	13:26	13:55	14:21	15:45	11:34	12:25	11:32	15:21	11:41	11:22	10:44	13:50	12:02
Methane	% vol	<0.1	1.2	1.5	1.20	0.10	0.80	<0.1	<0.1	<0.1	<0.1	0.10	0.10	<0.1	0.5	0.6	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.4	<0.1
Carbon Dioxide	% vol	<0.1	1.2	0.9	0.50	<0.1	0.50	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	0.1	0.4	0.6	0.1	<0.1	<0.1	<0.1	0.1	0.1	0.6	0.1
Oxygen	% vol	21.2	20.8	20.7	21.00	20.90	20.70	20.80	21.50	21.20	21.20	20.90	20.70	21.3	20.9	21.1	21.4	21.1	20.2	20.5	22.1	20.6	21.1	21.8
Atmospheric Pressure	mbars	1010	1003	1002	1012	1011	997	992	1000	1022	1018	1011	1006	991	1025	1010	1015	1028	1011	1016	999	1016	1001	1001
Gas Pressure	mbars	0.00	0.00	0.00	<0.01	-0.02	<0.01	0.17	0.14	0.14	-0.08	0.06	-0.05	0.03	0.09	<0.01	0.03	-0.1	0.05	-0.06	0.31	0.02	-0.09	-0.12
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.3	0.1	<0.1	0.1	-0.2	0.3	0.5	0.1	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV131**

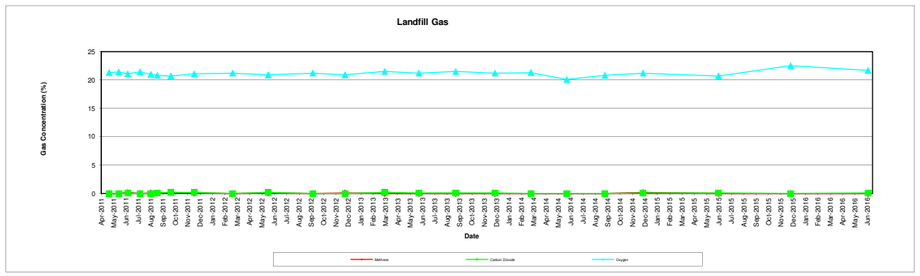
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	11/12/13	10/03/14	06/06/14	08/09/14	11/12/14	15/06/15	08/12/15	17/06/16
Time of measurement	-	14.58	14.44	16:09	17:10	11:17	11:38	12:44	11:39	12:28	15:33	13:34	13:58	12:40	15:42	15:18	10:19	15:31	15:28	15:04	12:03	10:49	14:04	11:59
Methane	% vol	0.9	0.6	1.4	0.80	0.30	1.00	0.70	1.10	<0.1	0.40	0.10	0.10	0.3	<0.1	0.6	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.7	0.5	1.2	0.50	0.10	0.70	0.60	1.10	0.10	0.20	0.10	<0.1	0.4	0.1	1	0.2	<0.1	0.1	<0.1	0.2	0.1	0.1	0.1
Oxygen	% vol	20.8	21.1	20.6	20.80	20.70	20.50	20.40	20.60	21.10	21.00	20.90	20.70	21.3	21.2	21	21.1	21.3	20	20.8	21.2	20.6	21.4	21.8
Atmospheric Pressure	mbars	1010	1002	1002	1012	1011	997	992	999	1022	1015	1010	1005	991	1024	1009	1018	1028	1010	1017	985	1016	1000	1001
Gas Pressure	mbars	0.01	0.00	0.00	0.08	-0.03	-0.06	-0.06	<0.1	0.05	-0.27	0.08	-0.07	0.09	0.09	-0.24	-0.07	-0.17	-0.07	-0.1	0.31	-0.03	0.02	-0.02
Gas Flow Rate	l/hr	<0.1	-0.4	<0.1	<0.1	<0.1	-0.1	-0.1	-0.2	0.3	<0.1	-0.20	<0.1	<0.1	0.1	0.3	0.1	<0.1	0.1	0.2	-0.1	0.1	0.2	0.3



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV132**

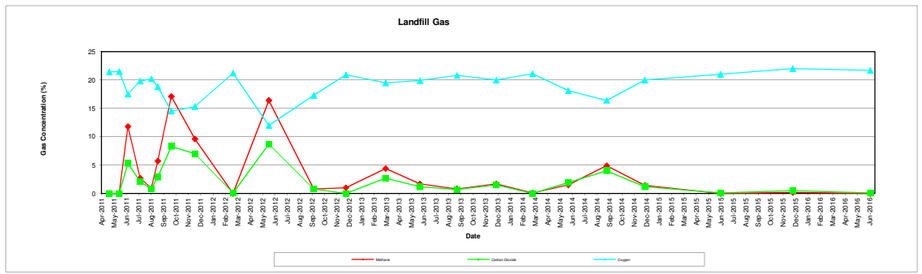
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	11/12/13	10/03/14	06/06/14	08/09/14	11/12/14	15/06/15	10/12/15	17/06/16
Time of measurement	-	14.48	14.42	15:31	16:59	13:36	14:30	15:27	11:46	14:43	15:23	16:51	15:16	12:36	15:21	15:22	10:21	15:28	15:31	15:10	12:24	10:58	10:55	11:56
Methane	% vol	<0.1	<0.1	0.2	<0.1	0.10	0.10	0.20	0.10	<0.1	0.10	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	0.1	<0.1	<0.1	0.10	0.20	0.20	<0.1	0.20	<0.1	<0.1	0.2	0.1	0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1
Oxygen	% vol	21.3	21.4	21.1	21.40	21.00	20.80	20.70	21.10	21.20	20.90	21.20	20.90	21.5	21.2	21.5	21.2	21.3	20.1	20.8	21.2	20.7	22.5	21.7
Atmospheric Pressure	mbars	1010	1002	1002	1012	1011	997	989	999	1022	1015	1010	1006	991	1024	1009	1017	1028	1010	1015	985	1016	993	1001
Gas Pressure	mbars	0.00	0.00	0.00	0.04	0.01	<0.01	-0.08	0.17	0.09	-0.19	0.13	<0.05	0.1	0.07	0.03	-0.15	-0.21	-0.03	-0.06	<0.01	-0.02	0.05	0.1
Gas Flow Rate	l/hr	0.1	<0.1	<0.1	0.1	-0.2	<0.1	-0.2	0.1	0.2	-0.1	<0.1	0.20	<0.1	0.1	0.3	0.2	<0.1	0.1	0.1	-0.8	0.2	0.2	0.3



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV133**

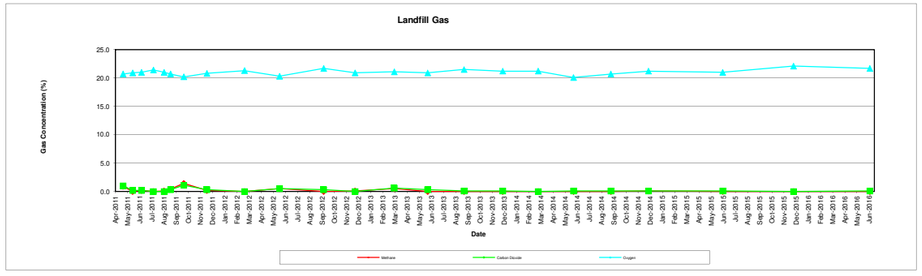
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	11/12/13	10/03/14	06/06/14	08/09/14	11/12/14	15/06/15	10/12/15	17/06/16
Time of measurement	-	14.29	14.32	15:24	16:28	13:31	14:05	15:30	13:19	16:06	15:17	16:44	15:22	12:28	15:15	14:58	09:57	15:06	14:56	14:40	12:18	11:09	10:52	11:53
Methane	% vol	<0.1	<0.1	11.8	2.70	0.90	5.70	17.10	9.60	<0.1	16.40	0.80	1.00	4.4	1.7	0.8	1.7	0.1	1.5	4.9	1.4	<0.1	0.2	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	5.3	2.10	0.80	2.90	8.30	7.00	0.10	8.70	0.80	<0.1	2.7	1.2	0.7	1.5	<0.1	1.9	4	1.2	0.1	0.5	0.1
Oxygen	% vol	21.4	21.5	17.5	19.80	20.20	18.80	14.50	15.30	21.20	12.00	17.30	20.90	19.5	19.9	20.8	20	21.1	18.1	16.4	20	21	22	21.7
Atmospheric Pressure	mbars	1010	1002	1002	1013	1010	996	990	997	1022	1015	1010	1007	991	1024	1009	1017	1028	1009	1015	986	1016	1002	1001
Gas Pressure	mbars	0.01	0.00	0.00	0.02	-0.01	<0.01	0.14	0.16	<0.01	-0.24	0.16	-0.05	0.12	0.09	-0.07	-0.12	-0.23	0.1	<0.01	0.19	0.02	-0.05	0.15
Gas Flow Rate	l/hr	0.1	0.5	<0.1	<0.1	<0.1	0.1	0.2	<0.1	-0.3	-0.2	<0.1	-0.10	0.1	0.1	0.3	0.5	-0.3	0.2	0.5	-0.4	0.2	0.5	0.3



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	GV134

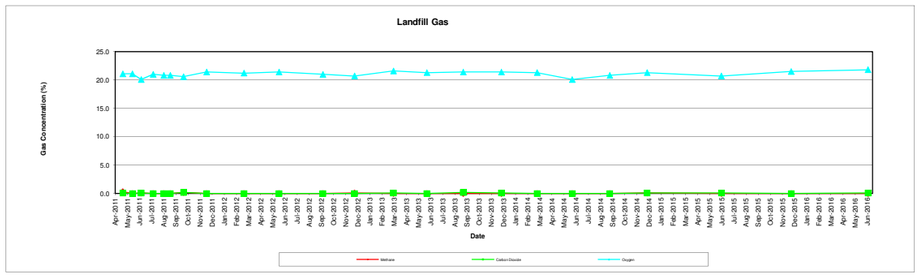
Determinand	Units																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	11/12/13	10/03/14	06/06/14	08/09/14	11/12/14	15/06/15	10/12/15	17/06/16
Time of measurement	-	14.34	15.06	15:56	16:50	13:42	14:16	15:38	14:10	16:17	15:13	16:35	15:26	14:39	15:18	15:41	10:09	15:15	15:06	14:46	12:16	11:12	10:42	11:51
Methane	% vol	0.9	<0.1	0.2	<0.1	0.10	0.40	1.40	0.20	<0.1	0.50	<0.1	0.10	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	1.0	0.2	0.2	<0.1	<0.1	0.30	1.10	0.30	<0.1	0.50	0.30	<0.1	0.6	0.3	0.1	0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	0.1
Oxygen	% vol	20.7	20.9	21.0	21.40	21.00	20.70	20.20	20.80	21.30	20.30	21.70	20.90	21.1	20.9	21.5	21.2	21.2	20.1	20.7	21.2	21	22.1	21.7
Atmospheric Pressure	mbars	1010	1002	1002	1012	1011	996	990	997	1022	1016	1011	1007	991	1024	1009	1018	1028	1009	1015	986	1017	1003	1001
Gas Pressure	mbars	0.05	0.00	0.00	0.01	0.01	<0.01	-0.12	0.13	0.09	-0.18	-0.05	<0.05	0.03	0.02	0.05	-0.07	-0.25	0.05	-0.19	<0.01	<0.01	-0.03	-0.05
Gas Flow Rate	l/hr	0.1	0.2	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.2	<0.1	0.3	0.1	-0.1	0.1	<0.1	-0.5	0.3	0.4	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV135**

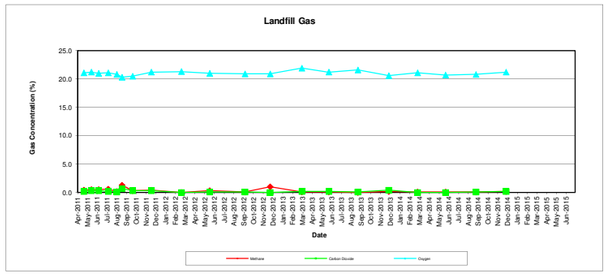
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	15/06/15	08/12/15	17/06/16
Time of measurement	-	12.21	11.34	16:13	13:41	11:21	11:41	12:41	11:43	12:24	15:33	13:31	14:01	12:43	15:40	15:15	12:28	15:35	15:25	15:07	12:01	10:54	14:08	12:04
Methane	% vol	0.3	<0.1	0.1	<0.1	<0.1	<0.1	0.20	<0.1	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.20	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.2	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1
Oxygen	% vol	21.1	21.1	20.1	21.00	20.80	20.80	20.60	21.40	21.20	21.40	21.00	20.70	21.6	21.3	21.4	21.4	21.3	20.1	20.8	21.3	20.7	21.5	21.8
Atmospheric Pressure	mbars	1010	1003	1002	1012	1011	996	993	999	1021	1018	1010	1005	991	1024	1009	1014	1029	1010	1015	985	1016	999	1002
Gas Pressure	mbars	0.03	0.00	0.00	-0.01	0.01	-0.07	-0.19	<0.1	0.15	0.07	-0.11	-0.08	0.05	0.03	-0.03	-0.33	-0.17	-0.02	-0.14	<0.01	-0.09	-0.14	-0.05
Gas Flow Rate	l/hr	0.2	0.2	<0.1	<0.1	0.1	-0.1	-0.7	-0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	0.2	0.1	<0.1	0.1	0.2	-0.2	0.2	0.3	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	GV136

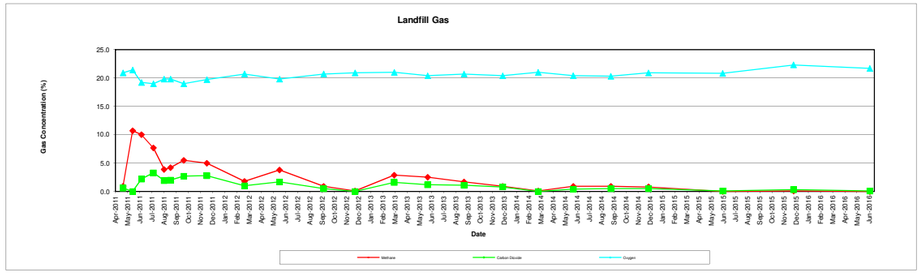
Determinand	Units																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	11/12/13	10/03/14	06/06/14	08/09/14	11/12/14	15/06/15	08/12/15	17/06/16
Time of measurement	-	14.51	14.21	15:36	13:53	11:25	11:44	12:48	11:50	14:13	13:08	15:07	15:12	10:12	15:30	13:03	09:49	13:09	12:48	13:06	11:59		14:21	12:09
Methane	% vol	0.4	0.5	0.5	0.60	0.20	1.30	0.30	0.40	<0.1	0.30	0.10	1.00	0.1	0.1	<0.1	0.2	0.1	0.1	0.1	0.2		<0.1	<0.1
Carbon Dioxide	% vol	0.2	0.3	0.3	0.20	0.10	0.70	0.30	0.30	<0.1	0.10	0.10	<0.1	0.2	0.2	0.1	0.4	<0.1	<0.1	0.1	0.2		0.1	0.1
Oxygen	% vol	21.1	21.2	21.0	21.10	20.80	20.30	20.50	21.20	21.30	21.00	20.90	20.90	21.9	21.2	21.6	20.6	21.1	20.7	20.8	21.2		21.5	21.7
Atmospheric Pressure	mbars	1010	1002	1002	1012	1010	996	991	998	1021	1016	1009	1006	991	1023	1009	1016	1027	1007	1014	985		999	1001
Gas Pressure	mbars	0.06	0.00	0.00	<0.01	0.01	-0.04	0.13	0.15	-0.14	-0.17	0.20	-0.16	-0.09	0.19	0.03	0.03	-0.23	-0.48	-0.21	0.22		-1.53	0.1
Gas Flow Rate	l/hr	0.2	0.3	<0.1	-0.1	-0.2	<0.1	0.2	0.1	<0.1	<0.1	0.20	<0.1	0.3	0.2	0.3	0.3	<0.1	0.1	-0.1	0.2		0.2	<0.1
																						Missed		



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	GV137

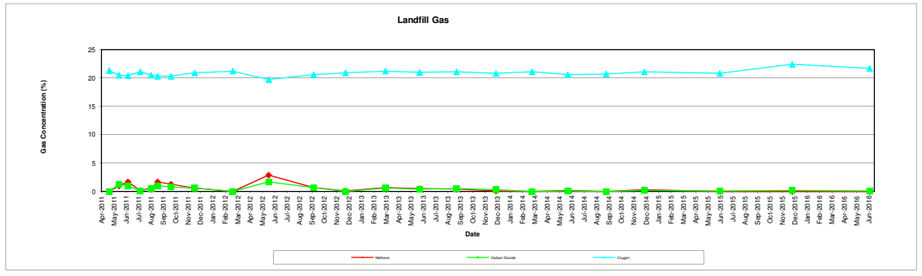
Determinand	Units																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	11/12/13	10/03/14	06/06/14	08/09/14	11/12/14	15/06/15	10/12/15	17/06/16
Time of measurement	-	12.25	14.18	15:48	15:08	12:29	12:53	14:42	13:05	14:09	13:59	15:11	15:09	10:15	15:27	15:11	09:52	13:12	12:51	14:35	12:27	11:02	11:01	12:12
Methane	% vol	0.9	10.7	10	7.70	3.90	4.20	5.50	5.00	1.80	3.80	0.90	0.10	2.9	2.5	1.7	0.9	0.1	0.9	0.9	0.8	<0.1	0.1	<0.1
Carbon Dioxide	% vol	0.6	0.0	2.2	3.30	1.90	2.00	2.70	2.80	1.00	1.70	0.50	<0.1	1.6	1.2	1.1	0.8	<0.1	0.4	0.5	0.5	0.1	0.3	0.1
Oxygen	% vol	20.9	21.4	19.2	19.00	19.80	19.80	19.00	19.70	20.70	19.80	20.70	20.90	21	20.4	20.7	20.4	21	20.4	20.3	20.9	20.8	22.3	21.7
Atmospheric Pressure	mbars	1010	1002	1002	1012	1010	995	989	997	1021	1015	1009	1006	991	1023	1008	1016	1026	1007	1014	986	1016	1001	1000
Gas Pressure	mbars	0.01	0.00	0.00	-0.01	0.01	-0.13	-0.17	-0.19	<0.01	-0.16	0.13	<0.05	-0.21	0.15	-0.17	0.09	-0.22	-0.47	-0.12	0.14	<0.01	-0.07	0.02
Gas Flow Rate	l/hr	0.2	0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	<0.1	0.10	-0.10	0.4	<0.1	0.2	0.2	<0.1	0.1	0.3	0.1	0.1	0.3	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	GV138

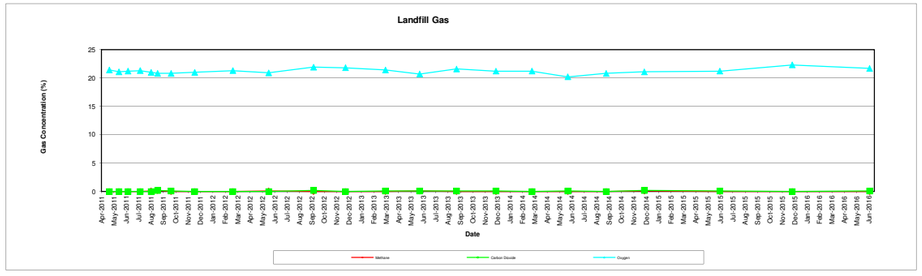
Determinand	Units																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	11/12/13	10/03/14	06/06/14	08/09/14	11/12/14	15/06/15	10/12/15	17/06/16
Time of measurement	-	14.22	14.34	15:20	16:32	13:33	14:08	15:24	13:13	16:10	15:20	16:47	15:19	12:32	15:25	15:02	09:55	15:03	14:45	14:37	12:22	11:06	10:58	12:15
Methane	% vol	<0.1	1.0	1.7	0.20	0.60	1.70	1.30	0.60	<0.1	2.90	0.70	0.10	0.7	0.5	0.4	0.1	<0.1	0.2	<0.1	0.3	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	1.3	1.0	0.10	0.50	1.00	0.80	0.60	<0.1	1.70	0.70	<0.1	0.6	0.4	0.5	0.3	<0.1	0.1	<0.1	0.2	0.1	0.2	0.1
Oxygen	% vol	21.3	20.5	20.4	21.10	20.50	20.30	20.30	20.90	21.20	19.70	20.60	20.90	21.2	21	21.1	20.8	21.1	20.6	20.7	21.1	20.8	22.4	21.7
Atmospheric Pressure	mbars	1010	1002	1002	1013	1010	996	990	997	1022	1015	1010	1006	990	1024	1009	1016	1027	1007	1014	985	1016	1002	1000
Gas Pressure	mbars	0.01	0.00	0.00	0.10	-0.03	<0.01	-0.13	0.13	<0.01	-0.34	-0.03	0.05	0.09	0.05	0.07	0.24	-0.23	-0.47	-0.15	0.38	0.02	0.09	-0.05
Gas Flow Rate	l/hr	0.2	0.3	<0.1	0.1	0.1	0.1	-0.2	0.2	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.2	0.2	-0.1	0.1	0.3	-0.4	0.2	0.1	<0.1



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	GV139

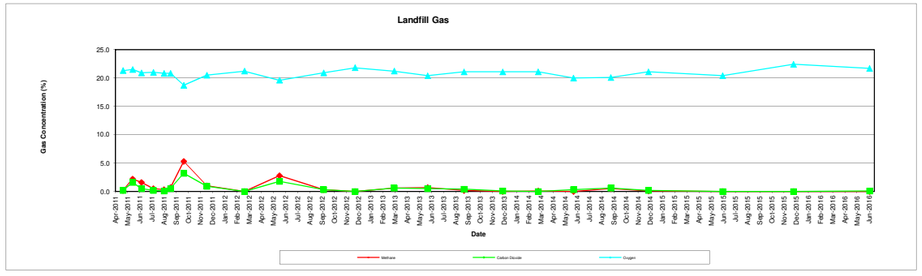
Determinand	Units																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	11/12/13	10/03/14	06/06/14	08/09/14	11/12/14	15/06/15	10/12/15	17/06/16
Time of measurement	-	14.32	15.04	15:50	16:38	13:40	14:13	15:35	14:13	16:14	15:09	16:38	14:54	14:35	15:02	15:39	10:03	15:12	15:02	14:49	12:14	11:16	10:45	11:23
Methane	% vol	<0.1	<0.1	<0.1	<0.1	0.10	0.20	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	0.20	0.10	<0.1	<0.1	<0.1	0.20	<0.1	0.1	0.1	0.1	0.1	<0.1	0.1	<0.1	0.2	0.1	<0.1	0.1
Oxygen	% vol	21.4	21.1	21.2	21.30	21.00	20.80	20.80	21.00	21.30	20.90	21.90	21.80	21.4	20.7	21.6	21.2	21.2	20.2	20.8	21.1	21.2	22.3	21.7
Atmospheric Pressure	mbars	1010	1002	1002	1012	1011	996	990	997	1022	1015	1011	1005	991	1022	1009	1017	1028	1009	1015	986	1017	1003	1000
Gas Pressure	mbars	0.02	0.00	0.00	<0.01	0.01	-0.04	-0.04	<0.1	0.07	-0.23	-0.31	0.17	0.15	-0.23	-0.07	-0.07	-0.23	0.17	-0.16	0.24	0.03	<0.01	-0.03
Gas Flow Rate	l/hr	0.1	0.2	<0.1	<0.1	<0.1	0.2	0.2	<0.1	-0.1	0.1	0.1	<0.1	0.1	-0.1	0.2	0.1	-0.1	0.1	0.1	-0.2	0.1	0.7	0.3



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	GV140

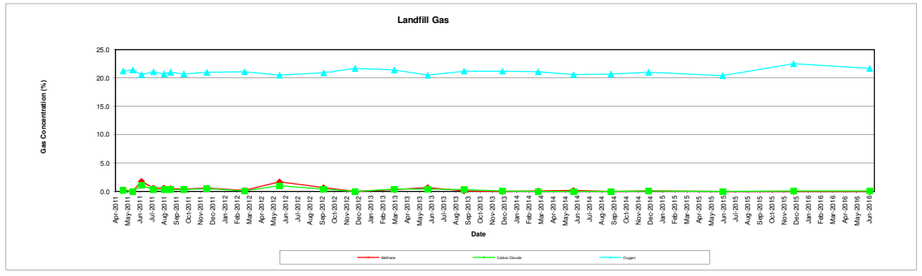
Determinand	Units																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	11/12/13	10/03/14	06/06/14	08/09/14	11/12/14	15/06/15	10/12/15	17/06/16
Time of measurement	-	14.25	14.29	15:28	16:25	13:28	14:01	15:33	13:16	16:02	15:07	16:40	14:51	12:24	14:59	14:54	10:00	15:09	14:59	14:43	12:20	11:21	10:49	11:12
Methane	% vol	0.2	2.2	1.6	0.50	0.30	0.70	5.30	1.00	<0.1	2.80	0.30	<0.1	0.6	0.7	0.2	<0.1	0.1	<0.1	0.5	0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.2	1.6	0.5	0.20	0.10	0.50	3.20	0.90	<0.1	1.80	0.30	<0.1	0.6	0.5	0.4	0.1	<0.1	0.3	0.6	0.2	<0.1	<0.1	0.1
Oxygen	% vol	21.3	21.5	20.9	21.00	20.80	20.80	18.70	20.50	21.20	19.60	20.90	21.80	21.2	20.4	21.1	21.1	21.1	20	20.1	21.1	20.4	22.4	21.7
Atmospheric Pressure	mbars	1010	1002	1002	1013	1010	996	989	998	1022	1014	1010	1005	991	1022	1009	1017	1028	1009	1015	985	1018	1002	1000
Gas Pressure	mbars	0.03	0.00	0.00	<0.01	-0.01	-0.03	0.11	<0.1	0.04	-0.22	0.16	0.15	0.07	-0.18	0.05	-0.03	-0.18	0.07	-0.2	0.28	0.03	-0.02	-0.09
Gas Flow Rate	l/hr	<0.1	0.5	<0.1	<0.1	<0.1	0.5	<0.1	<0.1	-0.2	<0.1	<0.1	<0.1	0.1	-0.3	0.1	0.2	<0.1	0.1	0.2	-0.1	<0.1	0.4	0.5



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV141**

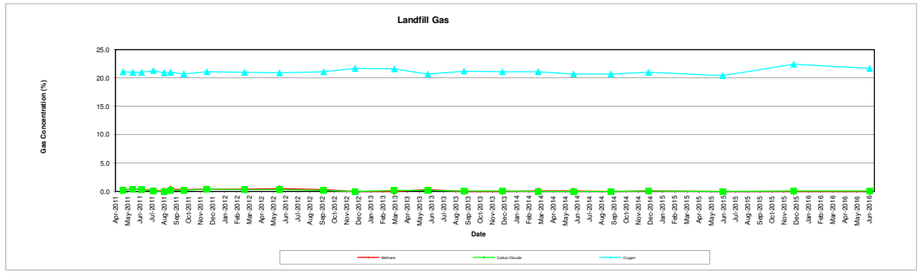
Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	15/06/15	10/12/15	17/06/16
Time of measurement	-	14.16	14.11	15:02	16:18	13:25	13:57	15:18	13:10	15:58	15:00	16:37	14:30	12:21	14:56	14:50	14:51	14:57	14:39	14:27	13:03	11:24	11:08	11:09
Methane	% vol	0.3	<0.1	1.8	0.60	0.60	0.50	0.40	0.60	0.20	1.70	0.70	<0.1	0.3	0.7	0.1	<0.1	0.1	0.2	<0.1	0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.2	<0.1	1.1	0.30	0.30	0.30	0.30	0.50	0.10	1.00	0.40	<0.1	0.4	0.4	0.3	0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1
Oxygen	% vol	21.2	21.4	20.6	21.10	20.70	21.00	20.70	21.00	21.10	20.50	20.90	21.70	21.4	20.5	21.2	21.2	21.1	20.6	20.7	21	20.4	22.5	21.7
Atmospheric Pressure	mbars	1010	1002	1002	1012	1010	995	989	997	1021	1015	1009	1004	990	1021	1009	1013	1027	1007	1014	984	1017	1002	999
Gas Pressure	mbars	0.00	0.00	0.00	0.03	0.01	-0.09	-0.08	-0.31	0.06	-0.17	0.13	0.12	0.12	-0.19	0.03	0.15	-0.24	-0.47	-0.11	0.04	0.03	0.02	0.33
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	-0.1	<0.1	-0.1	<0.1	0.3	-0.3	<0.1	<0.1	<0.1	0.1	<0.1	0.2	0.1	<0.1	0.1	0.2	0.1	<0.1	0.3	0.2



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	GV142

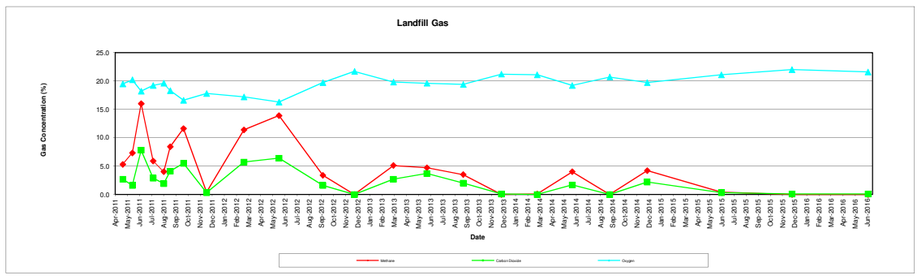
Determinand	Units																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	15/06/15	10/12/15	17/06/16
Time of measurement	-	14.06	14.05	14:58	16:06	13:20	13:51	15:15	15:18	15:50	14:51	16:31	14:33	12:17	14:53	14:41	14:44	14:54	14:33	14:21	13:06	11:30	11:19	11:07
Methane	% vol	0.3	0.4	0.4	0.20	0.10	0.40	0.30	0.40	0.40	0.50	0.30	<0.1	<0.1	0.3	<0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.2	0.4	0.3	0.10	<0.1	0.20	0.20	0.40	0.30	0.30	0.20	<0.1	0.2	0.2	0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1
Oxygen	% vol	21.1	21.0	21.0	21.30	20.90	21.00	20.70	21.10	21.00	20.90	21.10	21.70	21.6	20.7	21.2	21.1	21.1	20.7	20.7	21	20.4	22.4	21.7
Atmospheric Pressure	mbars	1010	1002	1002	1012	1010	995	989	994	1021	1015	1009	1004	990	1021	1008	1013	1027	1007	1014	984	1017	1001	999
Gas Pressure	mbars	0.01	0.00	0.00	<0.01	<0.01	-0.02	-0.08	<0.1	0.10	-0.22	0.12	<0.05	0.07	-0.21	<0.01	0.15	-0.13	-0.47	-0.1	0.32	<0.01	-0.14	-0.22
Gas Flow Rate	l/hr	<0.1	0.3	<0.1	<0.1	<0.1	-0.2	-0.1	<0.1	<0.1	0.1	-0.2	<0.1	<0.1	<0.1	0.2	0.2	0.1	0.1	0.2	0.1	<0.1	0.2	0.3



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV54 - GV143)

Sampling Location	**GV143**

Determinand	**Units**																							
Date monitored	-	06/05/11	30/05/11	21/06/11	21/07/11	17/08/11	02/09/11	05/10/11	02/12/11	05/03/12	01/06/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	15/06/15	10/12/15	17/06/16
Time of measurement	-	14.01	13.58	14:54	16:01	13:12	13:45	15:09	15:09	15:42	14:49	16:20	14:39	12:09	14:59	14:37	14:36	14:48	14:26	14:16	13:11	11:27	11:25	11:04
Methane	% vol	5.3	7.3	16	5.90	4.00	8.40	11.60	0.40	11.40	13.90	3.40	<0.1	5.1	4.7	3.5	<0.1	0.1	4	<0.1	4.2	0.4	<0.1	<0.1
Carbon Dioxide	% vol	2.7	1.6	7.8	2.90	1.90	4.10	5.50	0.30	5.70	6.40	1.60	<0.1	2.7	3.7	2	0.1	<0.1	1.7	<0.1	2.2	0.3	0.1	0.1
Oxygen	% vol	19.5	20.2	18.2	19.20	19.60	18.30	16.60	17.80	17.20	16.30	19.70	21.70	19.8	19.6	19.4	21.2	21.1	19.2	20.7	19.7	21.1	22	21.6
Atmospheric Pressure	mbars	1010	1002	1002	1012	1010	995	989	994	1021	1015	1009	1004	990	1023	1008	1013	1027	1007	1014	984	1016	1001	999
Gas Pressure	mbars	0.01	0.00	0.00	-0.04	<0.01	-0.02	-0.05	0.11	0.07	-0.19	0.10	-0.07	0.14	0.1	<0.01	0.14	-0.16	-0.47	-0.18	0.24	-0.03	-0.09	0.14
Gas Flow Rate	l/hr	0.2	0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.2	<0.1	<0.1	0.1	<0.1	0.1	0.1	0.4	0.3



APPENDIX C:

C10 – Ness Farm Phase 3 Passive Gas Vent Monitoring

Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Methane

	03/05/2012	01/06/2012	12/07/2012	07/09/2012	07/12/2012	15/03/2013	07/06/2013	06/09/2013	10/12/2013	10/03/2014	06/06/2014	09/09/2014	11/12/2014	05/06/2015	08/12/2015	16/06/2016		Average	Maximum
GV144	0.5	<0.1	0.3	0.20	<0.1	0.1	0.6	0.2	0.1	<0.1	<0.1	0.3	0.1	0.3	<0.1	0.3		0.27	0.60
GV145	0.3	0.1	0.2	0.10	<0.1	<0.1	0.1	0.4	0.1	<0.1	<0.1	0.5	0.1	0.2	<0.1	0.1		0.20	0.50
GV146	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1		0.10	0.10
GV147							0.1	15.6	2.2	<0.1	<0.1	14.8	<0.1	3.3	<0.1	<0.1		7.20	15.60
GV148	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.1	0.2	<0.1	<0.1	0.5	0.2	0.2	<0.1	<0.1		0.23	0.50
GV149	7.1	1.4	<0.1	<0.1	<0.1	3.7	<0.1	0.1	3.9	<0.1	0.2	0.3	5.1	8.7	2.7	5.9		3.55	8.70
GV150	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.8	<0.1	0.2	<0.1	<0.1		0.37	0.80
GV151	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	0.2	<0.1	<0.1		0.12	0.20
GV152	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1		0.15	0.20
GV153	1.6	<0.1	0.6	4.40	<0.1	1.1	0.6	0.1	0.5	<0.1	<0.1	0.3	0.4	1.7	0.3	<0.1		1.05	4.40
GV154	0.3	<0.1	<0.1	15.20	<0.1	5.3	4.2	0.1	0.1	<0.1	0.4	2.2	2.8	9.6	2	<0.1		3.84	15.20
GV155	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	0.1	0.2	<0.1	<0.1	0.1	0.1	0.3	0.1	0.1		0.14	0.30
GV156							0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1		0.10	0.10
GV157	0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	0.1	0.3	<0.1	<0.1	<0.1		0.5	<0.1	0.2		0.22	0.50
GV158							<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1		0.10	0.10
GV159	0.3	<0.1	0.3	0.80	<0.1	0.1	0.5	<0.1	0.1	<0.1	<0.1	<0.1	0.1	3.9	<0.1	<0.1		0.76	3.90
GV160	<0.1	<0.1	0.1	0.50	<0.1	0.1	0.1	0.2	0.1	<0.1	<0.1	<0.1	0.1	0.2	<0.1	0.5		0.21	0.50
GV161	5.1	1.2	1	2.90	<0.1	5.3	0.9	1.3	1.5	<0.1	0.9	<0.1	5.9	0.3	1.5	<0.1		2.32	5.90
GV162	0.1	<0.1	0.3	0.40	<0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.1	0.5	0.1	0.4		0.22	0.50
GV163	0.2	<0.1	0.2	0.40	<0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	0.3	0.1	<0.1		0.18	0.40
GV164	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	0.3		0.22	0.40
GV165	<0.1	<0.1	0.2	0.70	<0.1	0.3	0.1	0.1	0.4	<0.1	<0.1	<0.1	0.2	0.5	0.1	0.2		0.28	0.70
GV166	3.2	1.5	<0.1	0.10	<0.1	0.1	1.5	1.1	1.2	<0.1	<0.1	<0.1	0.5	1.5	0.3	0.3		1.03	3.20
GV167	0.2	<0.1	0.2	1.00	<0.1	0.1	0.1	0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.4	0.1	0.2		0.26	1.00
GV168	30.3	<0.1	5.9	18.00	<0.1	7.7	0.1	5.5	5.7	<0.1	<0.1	<0.1	3.7	5.5	2.2	4.2		8.07	30.30
GV169	0.1	<0.1	<0.1	0.40	<0.1	0.1	<0.1	0.2	0.4	<0.1	<0.1	<0.1	0.5	0.3	<0.1	<0.1		0.29	0.50
GV170	<0.1	<0.1	<0.1	6.70	<0.1	4.8	0.1	2.1	1.2	<0.1	<0.1	<0.1	3.2	0.1	0.6	2.9		2.41	6.70
GV171	0.2	<0.1	0.1	<0.1	<0.1	0.5	<0.1	0.1	0.2	<0.1	<0.1	<0.1	0.3	0.2	<0.1	<0.1		0.23	0.50
GV172	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.3	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1		0.13	0.30
GV173	<0.1	<0.1	0.4	1.90	<0.1	<0.1	<0.1	0.1	0.4	<0.1	<0.1	<0.1	1.8	0.6	0.4	0.1		0.71	1.90
GV174	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	0.2	0.1	<0.1	<0.1		0.23	0.40
GV175	2.5	<0.1	1.3	3.00	<0.1	0.7	<0.1	0.8	0.2	<0.1	<0.1	0.5	0.9	3.4	<0.1	<0.1		1.48	3.40
GV176	0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	0.2	<0.1	<0.1		0.12	0.20
GV177	0.2	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.5	0.4	<0.1	<0.1		0.26	0.50
GV178	0.6	<0.1	<0.1	0.10	<0.1	0.3	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.6	0.7	<0.1	<0.1		0.36	0.70
GV179	<0.1	0.3	0.4	0.40	>0.1	1.6	<0.1	0.7	0.4	<0.1	<0.1	0.1	2.1	1.3	0.3	0.1		0.70	2.10
GV180	1.2	<0.1	0.6	0.10	<0.1	1.5	<0.1	1.1	1.1	<0.1	<0.1	<0.1	1.3	1	0.3	0.3		0.85	1.50
GV181	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1		0.10	0.10
GV182	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1		0.10	0.10
GV183	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1		0.10	0.10
GV184	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	0.2	<0.1	<0.1		0.17	0.20
GV185	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1		0.10	0.10
GV186	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.4	0.3	<0.1	<0.1		0.23	0.40
GV187	0.1	<0.1	0.3	0.10	<0.1	0.2	<0.1	0.2	0.3	<0.1	<0.1	0.1	0.5	0.4	0.2	0.2		0.24	0.50
GV188	<0.1	1.1	0.5	0.50	<0.1	0.5	0.2	0.2	0.3	<0.1	<0.1	0.3	0.7	0.7	0.7	0.5		0.52	1.10
GV189	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1		0.10	0.10
GV190	0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	0.2	<0.1	<0.1		0.12	0.20
GV191	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1		0.10	0.10
GV192	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1		0.13	0.20
GV193	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	<0.1		0.13	0.20
GV194	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	0.2	<0.1	<0.1		0.15	0.20
GV195	0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.3	0.2	<0.1	<0.1		0.16	0.30
GV196	<0.1	<0.1	0.3	0.20	<0.1	0.8	<0.1	0.4	0.2	<0.1	<0.1	0.2	0.9	0.2	0.2	<0.1		0.38	0.90
GV197	<0.1	0.4	0.7	1.10	<0.1	1.6	<0.1	0.6	0.6	<0.1	0.1	0.4	0.6	0.6	0.2	0.5		0.62	1.60

0 - 10%
10 - 20%
20 - 30%
30 - 40%
40 - 60%

All results

Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Carbon Dioxide

	03/05/2012	01/06/2012	12/07/2012	07/09/2012	07/12/2012	15/03/13	07/06/2013	06/09/2013	10/12/2013	10/03/2014	06/06/2014	09/09/2014	11/12/2014	05/06/2015	08/12/2015	16/06/2016		Average	Maximum
GV144	0.5	0.1	0.2	0.20	0.1	0.1	0.4	0.2	0.1	0.1	0.1	0.2	0.1	0.2	<0.1	0.2		0.19	0.50
GV145	0.3	0.2	0.3	0.20	<0.1	0.1	<0.1	0.6	0.1	0.1	0.3	0.5	0.1	<0.1	<0.1	0.1		0.24	0.60
GV146	<0.1	0.1	<0.1	0.10	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1		0.10	0.10
GV147							<0.1	8	1.7	<0.1	<0.1	7.7	<0.1	2.7	<0.1	<0.1		5.03	8.00
GV148	<0.1	0.1	<0.1	0.10	<0.1	0.1	<0.1	0.1	0.1	0.1	0.1	0.2	0.1	<0.1	<0.1	<0.1		0.11	0.20
GV149	3.9	1.1	<0.1	0.10	<0.1	2.4	<0.1	0.1	2.6	0.1	0.4	0.2	3.2	5.4	<0.1	2.2		1.81	5.40
GV150	<0.1	0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1		0.10	0.10
GV151	<0.1	0.1	<0.1	0.10	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1		0.10	0.10
GV152	<0.1	0.1	<0.1	0.10	<0.1	<0.1	0.1	0.2	<0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1		0.11	0.20
GV153	0.9	0.1	0.5	2.80	<0.1	0.7	0.3	0.1	0.3	0.1	<0.1	0.2	0.3	1	0.2	<0.1		0.58	2.80
GV154	0.2	0.1	<0.1	9.80	<0.1	3.2	2.4	0.1	<0.1	0.1	0.5	1.3	1.1	5.9	1.4	<0.1		2.18	9.80
GV155	<0.1	0.1	<0.1	0.10	0.1	<0.1	0.1	0.1	0.1	0.1	0.1	<0.1	0.1	0.1	0.1	<0.1		0.10	0.10
GV156							0.1	0.2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		0.13	0.20
GV157	0.1	0.1	<0.1	0.10	0.1	<0.1	<0.1	0.2	0.3	0.1	<0.1	<0.1		0.3	<0.1	0.1		0.16	0.30
GV158							<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1		0.10	0.10
GV159	0.1	0.1	0.1	0.40	0.1	0.1	0.2	0.1	<0.1	0.1	0.1	<0.1	0.1	1.8	<0.1	<0.1		0.28	1.80
GV160	<0.1	0.1	<0.1	0.30	0.1	0.1	<0.1	0.1	0.1	0.1	0.2	<0.1	0.1	0.1	<0.1	0.4		0.15	0.40
GV161	3	1	0.8	2.50	0.1	3	0.6	0.9	1.1	0.1	1.5	<0.1	1.4	0.1	1.1	<0.1		1.23	3.00
GV162	<0.1	0.1	0.2	0.40	0.1	0.1	<0.1	0.3	0.1	0.1	0.2	<0.1	0.1	0.3	0.1	0.3		0.18	0.40
GV163	<0.1	<0.1	0.1	0.40	0.1	0.2	<0.1	0.1	0.1	0.1	0.3	<0.1	0.1	0.1	<0.1	<0.1		0.16	0.40
GV164	<0.1	0.1	0.1	0.10	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	0.1	<0.1	0.2		0.11	0.20
GV165	<0.1	0.1	0.1	0.70	0.1	0.2	<0.1	0.2	0.3	0.1	<0.1	<0.1	0.2	0.3	0.1	0.1		0.21	0.70
GV166	2.7	1.4	<0.1	0.10	0.1	0.1	1.3	0.6	0.9	0.1	<0.1	<0.1	0.4	1.2	0.2	0.2		0.72	2.70
GV167	<0.1	0.1	0.2	0.90	0.1	0.1	<0.1	0.2	0.1	0.1	<0.1	<0.1	0.1	0.2	0.1	0.2		0.20	0.90
GV168	17.4	0.1	3.9	12.90	0.1	4.9	<0.1	3.7	4.6	0.1	<0.1	<0.1	2.4	4	1.9	2.1		4.47	17.40
GV169	<0.1	0.1	<0.1	0.30	0.1	0.1	<0.1	0.2	0.2	0.1	0.2	<0.1	0.3	0.2	<0.1	<0.1		0.18	0.30
GV170	<0.1	0.1	<0.1	3.60	0.1	2.9	<0.1	1.1	0.9	0.1	<0.1	<0.1	1.1	<0.1	0.5	0.3		1.07	3.60
GV171	0.1	0.1	<0.1	<0.1	0.1	0.4	<0.1	0.1	0.1	0.1	0.2	<0.1	0.2	0.1	<0.1	<0.1		0.15	0.40
GV172	<0.1	0.1	<0.1	0.10	0.1	0.1	<0.1	0.2	0.2	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1		0.13	0.20
GV173	<0.1	0.1	0.3	1.40	0.1	<0.1	<0.1	0.1	0.3	0.1	<0.1	<0.1	1.4	0.4	0.3	<0.1		0.45	1.40
GV174	<0.1	0.1	<0.1	0.10	0.1	0.1	<0.1	0.1	0.2	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1		0.11	0.20
GV175	1.8	<0.1	0.9	3.20	0.1	0.6	<0.1	0.7	0.2	0.1	0.1	0.3	0.7	2.1	<0.1	<0.1		0.90	3.20
GV176	0.1	<0.1	<0.1	0.10	0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1		0.10	0.10
GV177	0.2	<0.1	0.1	0.10	0.1	0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	0.3	0.3	<0.1	<0.1		0.16	0.30
GV178	0.5	<0.1	<0.1	0.10	0.1	0.2	<0.1	0.1	0.1	0.1	<0.1	<0.1	0.4	0.6	<0.1	<0.1		0.24	0.60
GV179	<0.1	0.5	0.3	0.50	1	1.4	<0.1	0.8	0.6	0.1	<0.1	0.1	1.6	1.4	0.3	0.1		0.67	1.60
GV180	0.8	0.3	0.5	0.10	0.1	1.1	<0.1	0.7	0.9	0.1	<0.1	<0.1	0.8	0.9	0.1	0.2		0.51	1.10
GV181	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.2	0.3	<0.1	<0.1		0.18	0.30
GV182	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1		0.12	0.20
GV183	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1		0.13	0.20
GV184	0.1	<0.1	<0.1	0.10	0.2	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.3	0.2	<0.1	<0.1		0.17	0.30
GV185	0.1	<0.1	<0.1	0.10	0.2	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1		0.12	0.20
GV186	0.1	0.1	<0.1	0.10	0.2	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.3	0.3	<0.1	<0.1		0.16	0.30
GV187	<0.1	<0.1	0.1	0.10	<0.1	0.1	<0.1	0.1	0.2	0.1	<0.1	<0.1	0.3	0.2	0.1	0.1		0.14	0.30
GV188	<0.1	0.8	0.4	0.40	0.1	0.4	<0.1	0.2	0.2	0.1	<0.1	0.1	0.4	0.6	0.4	0.3		0.34	0.80
GV189	<0.1	<0.1	<0.1	0.10	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1		0.10	0.10
GV190	<0.1	0.1	<0.1	0.10	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1		0.10	0.10
GV191	<0.1	<0.1	<0.1	0.10	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1		0.10	0.10
GV192	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.3	0.3	<0.1	<0.1		0.17	0.30
GV193	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.6	<0.1	<0.1	<0.1		0.20	0.60
GV194	0.1	0.1	0.1	0.10	0.1	3.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.6	0.3	0.1	<0.1		0.44	3.10
GV195	0.1	0.1	0.1	0.10	0.1	0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	0.2	0.1	<0.1	<0.1		0.11	0.20
GV196	<0.1	<0.1	0.2	0.30	0.1	0.6	<0.1	0.3	0.2	0.1	0.1	0.1	0.6	0.1	0.1	<0.1		0.23	0.60
GV197	<0.1	0.4	0.6	0.90	0.1	1.4	<0.1	0.5	0.4	0.1	0.3	0.3	0.5	0.4	0.2	0.4		0.46	1.40

0 - 10%	
10 - 20%	
20 - 30%	
30 - 40%	
40 - 60%	

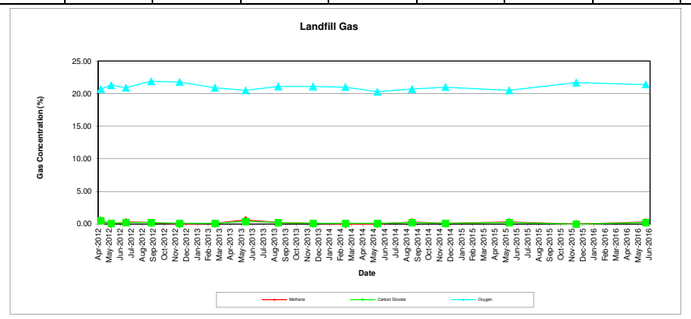
Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Flow Rate																			
	03/05/2012	01/06/2012	12/07/2012	07/09/2012	07/12/2012	15/03/2013	07/06/2013	06/09/2013	10/12/2013	10/03/2014	06/06/2014	09/09/2014	11/12/2014	05/06/2015	08/12/2015	16/06/2016		Average	Maximum	Minimum
GV144	<0.1	0.2	-0.3	-0.1	0.1	<0.1	<0.1	0.1	0.2	<0.1	0.1	0.1	0.2	<0.1	0.1	<0.1		0.07	0.20	-0.30
GV145	<0.1	<0.1	<0.1	-0.10	0.1	<0.1	<0.1	0.1	0.4	0.2	<0.1	0.2	<0.1	<0.1	<0.1	<0.1		0.15	0.40	-0.10
GV146	<0.1	-0.1	<0.1	-0.20	<0.1	0.3	<0.1	<0.1	0.1	0.1	<0.1	0.2	-0.3	<0.1	0.2	-0.1		0.02	0.30	-0.30
GV147							-0.1	<0.1	-0.4	-0.6	0.5	-0.1	<0.1	-0.1	-0.1	<0.1		-0.13	0.50	-0.60
GV148	<0.1	0.1	-0.1	<0.1	<0.1	0.4	-0.3	<0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	-0.6	<0.1		-0.01	0.40	-0.60
GV149	<0.1	<0.1	-0.1	<0.1	<0.1	0.8	-0.2	<0.1	-0.4	<0.1	0.1	0.2	<0.1	<0.1	-0.8	<0.1		-0.06	0.80	-0.80
GV150	<0.1	<0.1	-0.1	-0.10	<0.1	0.2	<0.1	-0.1	0.2	<0.1	0.2	0.2	1.1	<0.1	-0.1	<0.1		0.17	1.10	-0.10
GV151	<0.1	0.1	-0.2	-0.10	0.1	0.1	<0.1	<0.1	-0.1	0.1	0.1	<0.1	0.1	<0.1	-0.7	-0.1		-0.05	0.10	-0.70
GV152	<0.1	0.1	0.1	-0.10	<0.1	<0.1	-0.1	<0.1	0.2	0.1	0.1	0.1	-0.3	-0.1	<0.1	<0.1		0.01	0.20	-0.30
GV153	<0.1	0.1	<0.1	-0.10	0.1	<0.1	<0.1	0.1	0.4	0.1	-0.1	<0.1	0.7	-0.2	-0.1	<0.1		0.10	0.70	-0.20
GV154	<0.1	<0.1	<0.1	-0.10	0.2	<0.1	<0.1	0.1	0.3	0.1	-0.2	0.1	<0.1	<0.1	-1.2	<0.1		-0.09	0.30	-1.20
GV155	<0.1	<0.1	<0.1	0.20	<0.1	0.1	<0.1	0.1	0.4	0.1	-0.2	0.2	<0.1	<0.1	-0.1	<0.1		0.10	0.40	-0.20
GV156							<0.1	0.1	0.4	0.3	-0.1	0.3	<0.1	<0.1	<0.1	<0.1		0.20	0.40	-0.10
GV157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	0.1	-0.1	<0.1		<0.1	<0.1	0.7		0.20	0.70	-0.10
GV158							-0.1	0.1	0.5	<0.1	-0.3	0.3	<0.1	<0.1	0.3	<0.1		0.13	0.50	-0.30
GV159	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	0.5	<0.1	<0.1	0.2	0.1	<0.1	-0.1	<0.1		0.15	0.50	-0.10
GV160	<0.1	<0.1	-0.2	0.10	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.1	-0.1	<0.1	-0.1	-1.2	<0.1		-0.17	0.20	-1.20
GV161	<0.1	0.1	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	0.2	<0.1	0.3	<0.1	0.1	-1.2	<0.1		-0.04	0.30	-1.20
GV162	<0.1	<0.1	-0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	-0.1	0.2	<0.1	0.1	<0.1	<0.1		0.07	0.20	-0.10
GV163	<0.1	-0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.2	<0.1	0.1	-1	<0.1		-0.13	0.20	-1.00
GV164	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.4	<0.1	<0.1	0.2	<0.1	<0.1	0.1	<0.1		0.18	0.40	0.10
GV165	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	0.2	0.1	-0.4	<0.1		0.08	0.40	-0.40
GV166	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.2	<0.1	-0.1	0.1	0.1	0.2	-0.5	<0.1		0.01	0.20	-0.50
GV167	<0.1	<0.1	-0.2	-0.10	0.1	<0.1	<0.1	0.1	0.4	0.1	<0.1	<0.1	0.3	<0.1	-0.3	<0.1		0.05	0.40	-0.30
GV168	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	0.3	0.1	<0.1	<0.1	<0.1	<0.1	0.2	-0.4		0.02	0.30	-0.40
GV169	<0.1	<0.1	-0.3	0.20	<0.1	-0.1	<0.1	0.1	0.1	<0.1	<0.1	0.1	0.5	<0.1	<0.1	<0.1		0.09	0.50	-0.30
GV170	<0.1	<0.1	-0.2	0.20	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	-0.1	-0.3	0.5	<0.1	<0.1	-0.1		0.04	0.50	-0.30
GV171	<0.1	<0.1	-0.1	<0.1	0.1	-0.1	<0.1	<0.1	0.4	<0.1	<0.1	-0.5	0.3	0.1	<0.1	<0.1		0.03	0.40	-0.50
GV172	<0.1	<0.1	-0.1	<0.1	0.1	-0.4	<0.1	<0.1	-0.4	0.1	<0.1	0.3	0.3	-0.2	-0.4	<0.1		-0.08	0.30	-0.40
GV173	<0.1	<0.1	<0.1	0.30	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	0.3	<0.1	<0.1	<0.1		0.20	0.30	-0.10
GV174	<0.1	<0.1	-0.2	0.20	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.2	0.4	<0.1	<0.1	<0.1		0.13	0.40	-0.20
GV175	<0.1	0.1	-0.1	-0.20	0.1	<0.1	<0.1	<0.1	-0.5	0.1	-0.1	0.1	0.9	<0.1	-0.7	<0.1		-0.03	0.90	-0.70
GV176	<0.1	<0.1	<0.1	-0.10	0.1	0.1	-0.1	<0.1	0.1	0.1	0.1	0.1	0.6	-0.1	0.1	<0.1		0.09	0.60	-0.10
GV177	<0.1	0.1	0.1	0.10	<0.1	<0.1	-0.1	<0.1	0.1	<0.1	-0.1	0.1	-0.3	-0.2	-0.5	<0.1		-0.07	0.10	-0.50
GV178	<0.1	<0.1	-0.2	<0.1	<0.1	0.9	-0.1	<0.1	0.3	<0.1	<0.1	0.1	-0.2	-0.1	-0.4	<0.1		0.04	0.90	-0.40
GV179	<0.1	0.1	<0.1	<0.1	0.1	0.4	<0.1	0.1	<0.1	0.1	-0.1	0.1	0.1	-0.1	0.2	<0.1		0.10	0.40	-0.10
GV180	<0.1	0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	0.3	0.1	-0.2	0.1	0.4	-0.1	-0.1	<0.1		0.09	0.40	-0.20
GV181	<0.1	<0.1	-0.1	-0.10	0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	0.2	-0.1	<0.1	0.1	<0.1		0.04	0.20	-0.10
GV182	<0.1	0.1	0.1	-0.10	<0.1	<0.1	<0.1	0.1	0.2	0.1	-0.1	0.1	<0.1	<0.1	<0.1	<0.1		0.06	0.20	-0.10
GV183	<0.1	0.1	<0.1	-0.10	<0.1	-0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	-0.1	-0.1	0.2	<0.1		0.02	0.20	-0.10
GV184	<0.1	<0.1	<0.1	-0.10	<0.1	<0.1	<0.1	<0.1	0.2	0.1	-0.1	0.2	<0.1	<0.1	-0.2	<0.1		0.02	0.20	-0.20
GV185	<0.1	<0.1	<0.1	-0.20	0.1	-0.2	<0.1	<0.1	0.1	0.2	-0.1	0.2	<0.1	-0.2	-0.6	-0.1		-0.08	0.20	-0.60
GV186	0.2	0.1	<0.1	-0.10	<0.1	-0.1	<0.1	<0.1	0.2	0.1	<0.1	0.1	-0.4	<0.1	-0.7	-0.1		-0.07	0.20	-0.70
GV187	<0.1	0.1	<0.1	-0.20	0.1	<0.1	<0.1	<0.1	0.3	0.1	<0.1	0.2	0.5	<0.1	-0.3	<0.1		0.10	0.50	-0.30
GV188	0.2	<0.1	0.1	-0.10	<0.1	<0.1	<0.1	<0.1	0.4	0.2	<0.1	0.2	0.2	<0.1	-0.1	<0.1		0.14	0.40	-0.10
GV189	<0.1	<0.1	<0.1	-0.10	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	0.2	-0.1	-0.2	<0.1	<0.1		0.00	0.20	-0.20
GV190	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.2	-0.2	-0.1	<0.1	<0.1		0.04	0.20	-0.20
GV191	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.2	<0.1	-0.1	-0.2	<0.1		0.01	0.20	-0.20
GV192	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	<0.1	0.1	0.2	-0.8	<0.1	-0.6	<0.1		-0.10	0.20	-0.80
GV193	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	-0.1	-0.2	0.2	-0.1	<0.1	<0.1	0.2		0.06	0.30	-0.20
GV194	<0.1	<0.1	-0.5	<0.1	<0.1	0.1	<0.1	<0.1	0.1	-0.1	-0.1	0.2	-0.3	<0.1	<0.1	-0.1		-0.09	0.20	-0.50
GV195	<0.1	<0.1	<0.1	-0.10	0.1	<0.1	<0.1	<0.1	0.2	-0.1	-0.1	0.2	<0.1	<0.1	0.4	<0.1		0.09	0.40	-0.10
GV196	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	-0.1	<0.1	0.2	-0.1	<0.1	-0.1	<0.1		0.06	0.40	-0.10
GV197	<0.1	<0.1	<0.1	-0.10	0.1	<0.1	<0.1	<0.1	0.3	-0.1	<0.1	0.3	0.2	<0.1	<0.1	-0.1		0.09	0.30	-0.10

Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV144**

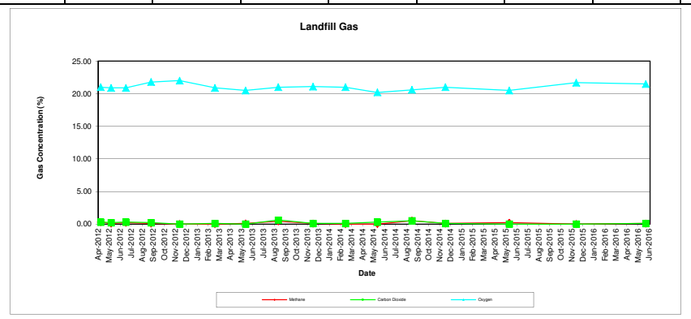
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	11/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	10:05	10:09	11:58	15:45	10:34	14:57	14:40	14:31	14:05	14:19	14:22	14:17	14:13	11:51	14:35	15:09
Methane	% vol	0.50	<0.1	0.30	0.20	<0.1	0.1	0.6	0.2	0.1	<0.1	<0.1	0.3	0.1	0.3	<0.1	0.3
Carbon Dioxide	% vol	0.50	0.10	0.20	0.20	0.10	0.1	0.4	0.2	0.1	0.1	0.1	0.2	0.1	0.2	<0.1	0.2
Oxygen	% vol	20.70	21.30	20.90	21.90	21.80	20.9	20.5	21.1	21.1	21	20.3	20.7	21	20.5	21.7	21.4
Atmospheric Pressure	mbars	1012	1016	1003	1010	997	990	1021	1008	1014	1025	1007	1015	985	1004	1001	1000
Gas Pressure	mbars	-0.07	0.10	-0.11	-0.02	0.34	0.2	-0.23	0.22	-0.32	0.03	0.05	-0.18	0.22	-0.02	-0.48	-0.25
Gas Flow Rate	l/hr	<0.2	0.2	-0.3	-0.1	0.1	<0.1	<0.1	0.1	0.2	<0.1	0.1	0.1	0.2	<0.1	0.1	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV145**

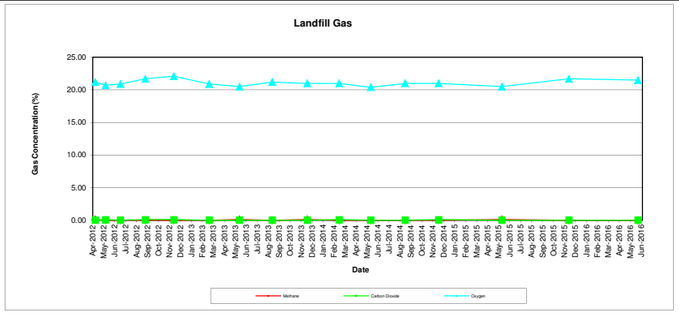
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	11/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	09:59	09:55	12:02	15:49	10:37	14:54	14:36	14:27	14:02	14:15	14:26	14:14	14:15	11:39	14:31	15:06
Methane	% vol	0.30	0.10	0.20	0.10	<0.1	<0.1	0.1	0.4	0.1	<0.1	<0.1	0.5	0.1	0.2	<0.1	0.1
Carbon Dioxide	% vol	0.30	0.20	0.30	0.20	<0.1	0.1	<0.1	0.6	0.1	0.1	0.3	0.5	0.1	<0.1	<0.1	0.1
Oxygen	% vol	21.00	20.90	20.90	21.80	22.00	20.9	20.5	21	21.1	21	20.2	20.6	21	20.5	21.7	21.5
Atmospheric Pressure	mbars	1012	1016	1003	1010	997	990	1021	1008	1014	1025	1007	1015	984	1004	1001	1000
Gas Pressure	mbars	-0.05	-0.24	<0.01	-0.12	0.15	0.17	-0.17	0.16	-0.14	-0.05	-0.09	-0.17	0.33	-0.04	-0.1	-0.16
Gas Flow Rate	l/hr	<0.2	<0.1	<0.1	-0.10	0.10	<0.1	<0.1	0.1	0.4	0.2	<0.1	0.2	<0.1	<0.1	<0.1	<0.1
Comments								Casing cracked	Casing cracked								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV146**

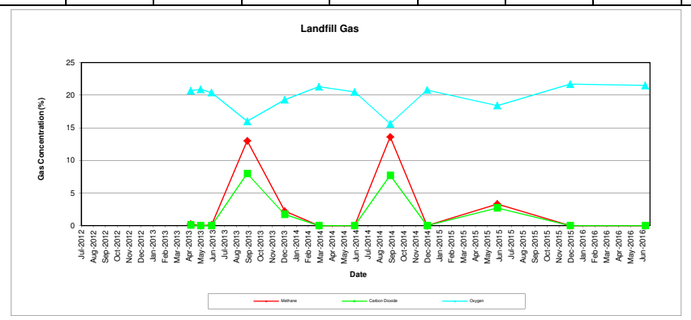
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	12/12/13	10/03/14	06/06/14	09/09/14	11/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	09:55	09:48	15:10	15:53	10:51	14:50	14:33	14:24	09:53	14:12	14:29	14:11	14:17	11:44	14:27	15:03
Methane	% vol	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	0.10	<0.1	0.10	0.10	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
Oxygen	% vol	21.20	20.70	20.90	21.70	22.10	20.9	20.5	21.2	21	21	20.4	21	21	20.5	21.7	21.5
Atmospheric Pressure	mbars	1012	1015	1003	1010	997	990	1021	1008	1006	1024	1007	1015	984	1004	1001	1000
Gas Pressure	mbars	-0.06	-0.17	-0.07	0.07	-0.15	-0.27	-0.28	0.15	-0.16	-0.02	-0.1	-0.17	0.26	-0.05	-0.23	-0.18
Gas Flow Rate	l/hr	<0.2	-0.10	<0.1	-0.20	<0.1	0.3	<0.1	<0.1	0.1	0.1	<0.1	0.2	-0.3	<0.1	0.2	-0.1
Comments								Casing cracked	Casing cracked	New gas vent with no hole drilled for gas tap							



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV147

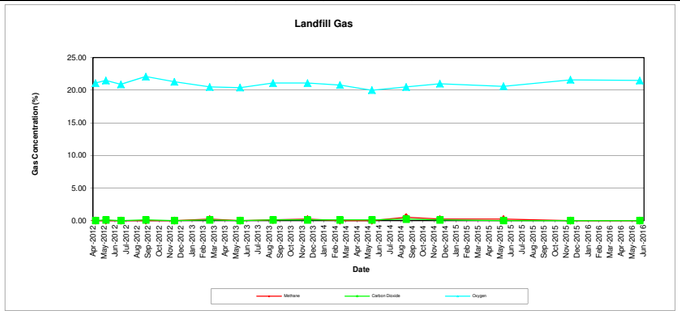
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	07/06/13	06/09/13	10/12/13	07/03/14	06/06/14	05/09/14	08/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	15:15	14:49	14:30	14:20	13:57	14:54	14:32	14:12	13:58	11:47	14:25	15:00
Methane	% vol	0.2	<0.1	0.1	13	2.2	<0.1	<0.1	13.6	<0.1	3.3	<0.1	<0.1
Carbon Dioxide	% vol	0.1	<0.1	<0.1	8	1.7	<0.1	<0.1	7.7	<0.1	2.7	<0.1	<0.1
Oxygen	% vol	20.7	20.9	20.4	16	19.3	21.3	20.5	15.6	20.8	18.4	21.7	21.5
Atmospheric Pressure	mbars	999	993	1021	1008	1014	1008	1007	1012	1009	1004	1002	999
Gas Pressure	mbars	-0.15	-0.18	-0.17	0.2	-0.36	-0.44	0.03	<0.01	0.12	-0.01	-0.11	-0.12
Gas Flow Rate	l/hr	-0.2	<0.1	-0.1	<0.1	-0.4	-0.6	0.5	-0.1	<0.1	-0.1	-0.1	<0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV148**

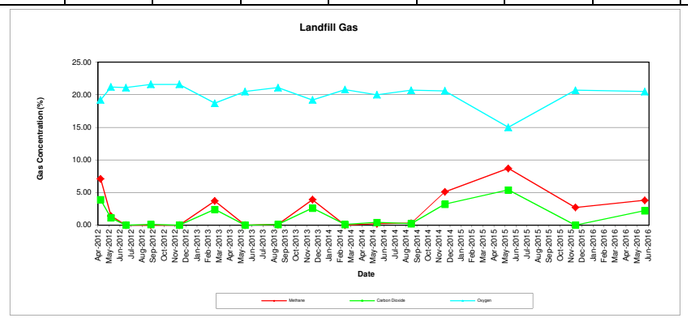
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	11/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	10:12	10:17	11:02	15:39	10:18	14:16	13:55	13:38	13:50	13:42	13:32	13:41	14:09	12:03	13:49	14:16
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.1	0.2	<0.1	<0.1	0.5	0.2	0.2	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	0.10	<0.1	0.10	<0.1	0.1	<0.1	0.1	0.1	0.1	0.1	0.2	0.1	<0.1	<0.1	<0.1
Oxygen	% vol	21.10	21.50	20.90	22.10	21.30	20.5	20.4	21.1	21.1	20.8	20	20.5	21	20.6	21.6	21.5
Atmospheric Pressure	mbars	1012	1016	1004	1010	996	991	1022	1009	1014	1024	1007	1015	985	1004	1002	1000
Gas Pressure	mbars	-0.09	0.14	0.06	0.34	0.05	-0.41	-0.08	0.18	<0.01	-0.05	-0.09	-0.29	-0.42	-0.05	-0.41	-0.14
Gas Flow Rate	l/hr	<0.2	0.10	-0.1	<0.1	<0.1	0.4	-0.3	<0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	-0.6	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV149**

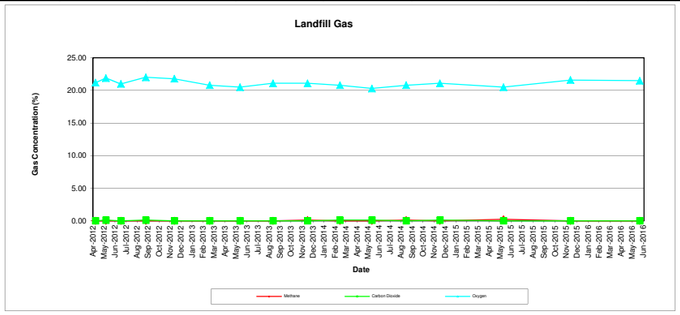
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	11/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	10:16	10:22	11:25	15:33	10:22	14:19	13:57	13:41	13:47	13:45	13:35	13:44	14:07	10:09	13:53	14:19
Methane	% vol	7.10	1.40	<0.1	<0.1	<0.1	3.7	<0.1	0.1	3.9	<0.1	0.2	0.3	5.1	8.7	2.7	3.8
Carbon Dioxide	% vol	3.90	1.10	<0.1	0.10	<0.1	2.4	<0.1	0.1	2.6	0.1	0.4	0.2	3.2	5.4	<0.1	2.2
Oxygen	% vol	19.20	21.20	21.10	21.60	21.60	18.7	20.5	21.1	19.2	20.8	20	20.7	20.6	15	20.7	20.5
Atmospheric Pressure	mbars	1012	1016	1003	1010	997	991	1022	1009	1014	1024	1007	1015	985	1006	1002	1000
Gas Pressure	mbars	-0.11	0.10	0.09	-0.07	-0.03	-0.19	-0.19	0.15	-0.23	<0.01	-0.02	-0.22	0.31	-0.39	-0.3	-0.18
Gas Flow Rate	l/hr	<0.2	<0.1	-0.1	<0.1	<0.1	0.8	-0.2	<0.1	-0.4	<0.1	0.1	0.2	<0.1	<0.1	-0.8	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV150**

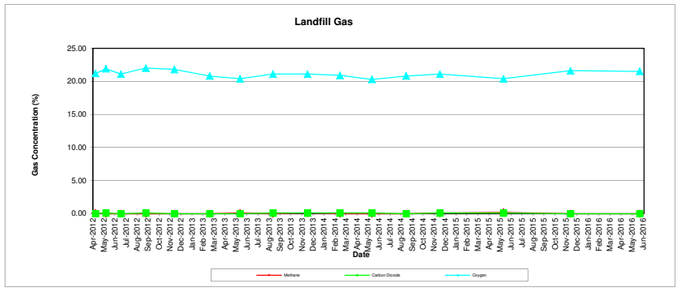
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	11/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	10:21	10:26	11:29	15:30	10:26	14:23	14:00	13:44	13:43	13:48	13:39	13:48	14:04	11:32	13:56	14:22
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	0.10	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1
Oxygen	% vol	21.20	21.90	21.00	22.00	21.80	20.8	20.5	21.1	21.1	20.8	20.3	20.8	21.1	20.5	21.6	21.5
Atmospheric Pressure	mbars	1012	1016	1003	1010	997	991	1022	1009	1014	1024	1007	1015	984	1004	1002	1000
Gas Pressure	mbars	-0.11	0.02	<0.01	0.17	1.06	0.21	-0.03	0.1	<0.01	-0.03	-0.03	-0.22	-0.22	<0.01	-0.17	-0.22
Gas Flow Rate	l/hr	<0.2	<0.1	-0.1	-0.10	<0.1	0.2	<0.1	-0.1	0.2	<0.1	0.2	0.2	1.1	<0.1	-0.1	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV151**

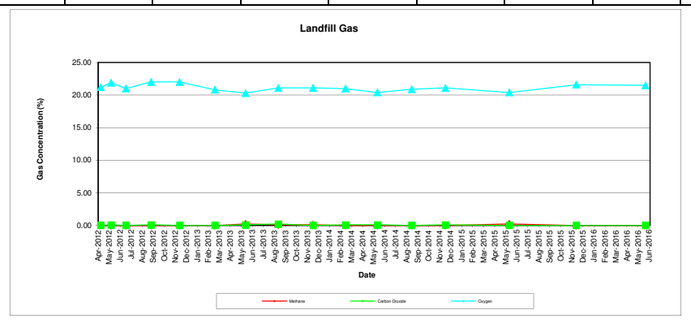
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	11/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	10:25	10:31	11:49	15:26	10:30	14:26	14:04	13:47	13:40	13:52	13:42	13:50	14:02	11:29	13:59	14:25
Methane	% vol	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	0.10	<0.1	0.10	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1
Oxygen	% vol	21.20	21.90	21.10	22.00	21.80	20.8	20.4	21.1	21.1	20.9	20.3	20.8	21.1	20.4	21.6	21.5
Atmospheric Pressure	mbars	1012	1016	1003	1010	997	991	1022	1009	1014	1024	1007	1015	985	1004	1002	1000
Gas Pressure	mbars	-0.11	<0.01	-0.11	-0.12	0.12	0.11	-0.08	0.18	-0.05	0.02	-0.14	-0.24	0.25	<0.01	-0.34	-0.32
Gas Flow Rate	l/hr	<0.2	0.10	-0.2	-0.10	0.10	0.1	<0.1	<0.1	-0.1	0.1	0.1	<0.1	0.1	<0.1	-0.7	-0.1
Comments																	
comment																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV152**

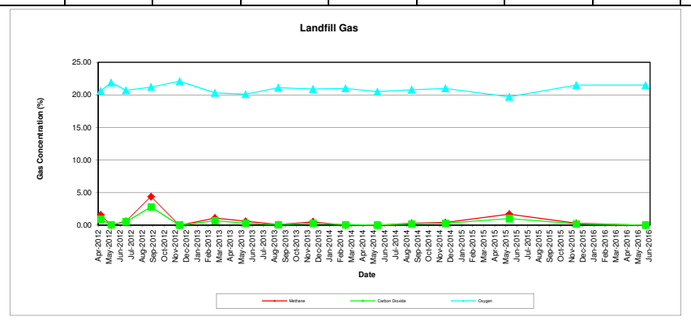
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	11/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	10:29	10:34	12:07	15:23	10:41	14:29	14:07	13:50	13:37	13:55	13:45	13:54	13:59	11:26	14:02	14:28
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	0.10	<0.1	0.10	<0.1	<0.1	0.1	0.2	<0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1
Oxygen	% vol	21.20	21.90	21.00	22.00	22.00	20.8	20.3	21.1	21.1	21	20.4	20.9	21.1	20.4	21.6	21.5
Atmospheric Pressure	mbars	1012	1016	1004	1010	997	991	1022	1009	1014	1024	1007	1015	985	1004	1002	1000
Gas Pressure	mbars	-0.11	-0.09	-0.10	-0.14	0.10	0.2	-0.06	0.1	0.03	0.24	-0.09	-0.26	0.08	-0.05	-0.18	-0.11
Gas Flow Rate	l/hr	<0.2	0.10	0.1	-0.10	<0.1	<0.1	-0.1	<0.1	0.2	0.1	0.1	0.1	-0.3	-0.1	<0.1	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV153**

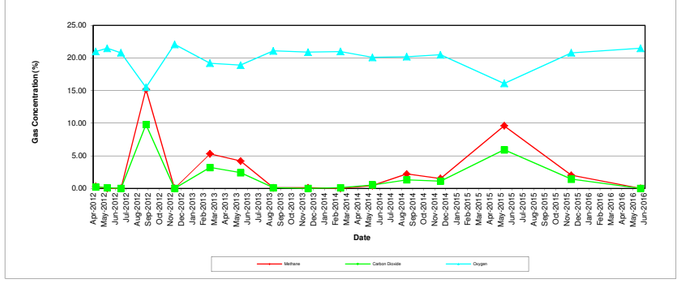
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	11/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	10:33	10:38	15:06	15:20	10:45	14:32	14:10	13:53	13:34	13:58	13:48	13:57	13:56	11:23	14:05	14:31
Methane	% vol	1.60	<0.1	0.60	4.40	<0.1	1.1	0.6	0.1	0.5	<0.1	<0.1	0.3	0.4	1.7	0.3	<0.1
Carbon Dioxide	% vol	0.90	0.10	0.50	2.80	<0.1	0.7	0.3	0.1	0.3	0.1	<0.1	0.2	0.3	1	0.2	<0.1
Oxygen	% vol	20.60	21.90	20.70	21.20	22.10	20.3	20.1	21.1	20.9	21	20.5	20.8	21	19.7	21.5	21.5
Atmospheric Pressure	mbars	1012	1016	1003	1010	997	990	1021	1009	1014	1024	1007	1015	984	1004	1001	1000
Gas Pressure	mbars	-0.13	-0.07	-0.02	-0.10	-0.14	<0.01	-0.09	0.1	-0.27	-0.19	-0.1	-0.24	-0.36	-0.14	-0.42	-0.22
Gas Flow Rate	l/hr	<0.2	0.10	<0.1	-0.10	0.10	<0.1	<0.1	0.1	0.4	0.1	-0.1	<0.1	0.7	-0.2	-0.1	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV154**

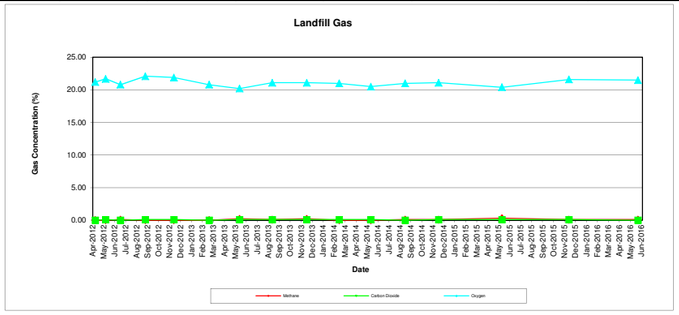
Determinand	**Units**																
Date monitored	-	03/05/12	04/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	11/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	10:37	14:20	15:02	15:17	10:48	14:35	14:14	13:57	13:31	14:01	13:52	14:00	13:53	11:19	14:08	14:34
Methane	% vol	0.30	<0.1	<0.1	15.20	<0.1	5.3	4.2	0.1	0.1	<0.1	0.4	2.2	1.5	9.6	2	<0.1
Carbon Dioxide	% vol	0.20	0.10	<0.1	9.80	<0.1	3.2	2.4	0.1	<0.1	0.1	0.5	1.3	1.1	5.9	1.4	<0.1
Oxygen	% vol	21.00	21.50	20.80	15.50	22.10	19.2	18.9	21.1	20.9	21	20.1	20.2	20.5	16.1	20.8	21.5
Atmospheric Pressure	mbars	1012	1011	1003	1010	997	990	1021	1009	1014	1024	1007	1015	985	1004	1001	1000
Gas Pressure	mbars	-0.13	0.07	<0.01	-0.22	-0.07	0.05	-0.1	0.2	0.6	-0.05	-0.09	-0.21	-0.28	-0.03	-0.31	-0.19
Gas Flow Rate	l/hr	<0.2	<0.1	<0.1	-0.10	0.20	<0.1	<0.1	0.1	0.3	0.1	-0.2	0.1	<0.1	<0.1	-1.2	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV155**

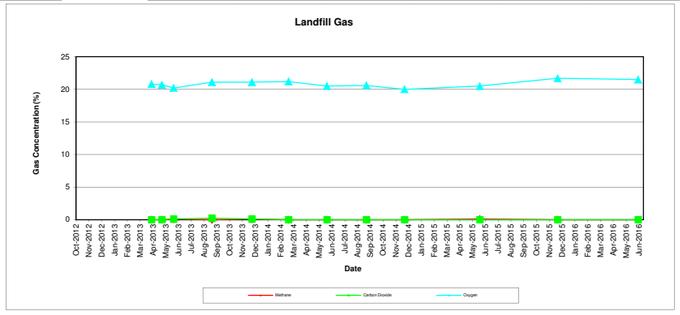
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	11/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	10:41	10:45	14:56	15:09	10:55	14:39	14:17	14:00	13:27	14:05	13:56	14:03	13:51	11:15	14:11	14:37
Methane	% vol	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	0.2	0.1	0.2	<0.1	<0.1	0.1	0.1	0.3	0.1	0.1
Carbon Dioxide	% vol	<0.1	0.10	<0.1	0.10	0.10	<0.1	0.1	0.1	0.1	0.1	0.1	<0.1	0.1	0.1	0.1	<0.1
Oxygen	% vol	21.20	21.70	20.80	22.10	21.90	20.8	20.2	21.1	21.1	21	20.5	21	21.1	20.4	21.6	21.5
Atmospheric Pressure	mbars	1012	1016	1003	1010	998	990	1021	1009	1014	1024	1007	1015	985	1005	1001	1000
Gas Pressure	mbars	-0.13	0.10	-0.21	-0.07	-0.07	0.04	-0.11	0.16	-0.05	-0.05	-0.14	-0.16	-0.21	<0.01	-0.07	-0.22
Gas Flow Rate	l/hr	<0.2	<0.1	<0.1	0.20	<0.1	0.1	<0.1	0.1	0.4	0.1	-0.2	0.2	<0.1	<0.1	-0.1	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV156**

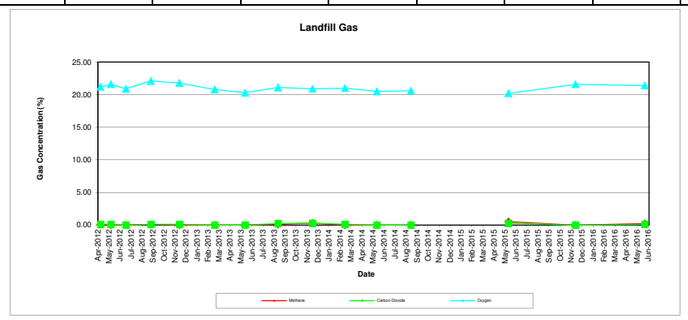
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	07/06/13	06/09/13	10/12/13	07/03/14	06/06/14	08/09/14	08/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	15:19	14:32	14:20	14:06	13:24	14:48	14:01	11:17	13:46	11:12	14:12	14:39
Methane	% vol	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	0.1	0.2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Oxygen	% vol	20.8	20.7	20.2	21.1	21.1	21.2	20.5	20.6	20	20.5	21.7	21.5
Atmospheric Pressure	mbars	999	993	<<<<	1009	1014	1009	1007	1018	1009	1005	1001	1000
Gas Pressure	mbars	-0.28	-0.17	-0.2	<0.01	0.4	-0.35	<0.01	<0.01	0.11	-0.06	-0.01	-0.21
Gas Flow Rate	l/hr	-0.1	0.1	<0.1	0.1	0.4	0.3	-0.1	0.3	<0.1	<0.1	<0.1	<0.1
Comments													Gas tap requires replacing



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV157**

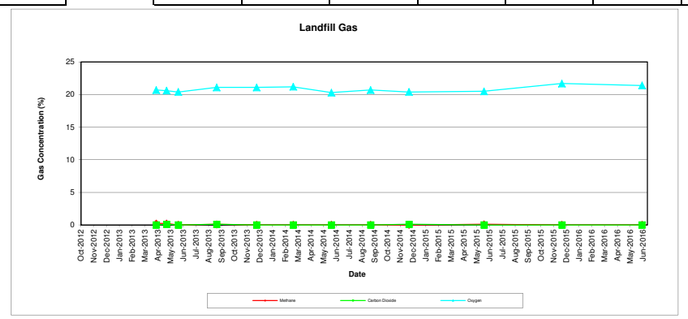
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	08/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	11:28	10:51	14:51	15:13	10:59	14:43	14:23	14:10	13:20	14:08	13:29	11:14		11:04	14:16	14:43
Methane	% vol	0.10	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	0.1	0.3	<0.1	<0.1	<0.1		0.5	<0.1	0.2
Carbon Dioxide	% vol	0.10	0.10	<0.1	0.10	0.10	<0.1	<0.1	0.2	0.3	0.1	<0.1	<0.1		0.3	<0.1	0.1
Oxygen	% vol	21.20	21.60	20.90	22.10	21.80	20.8	20.3	21.1	20.9	21	20.5	20.6		20.2	21.6	21.4
Atmospheric Pressure	mbars	1012	1016	1003	1010	998	990	1021	1008	1014	1024	1007	1017		1005	1001	1000
Gas Pressure	mbars	-0.15	-0.05	<0.01	-0.14	-0.03	0.13	-0.19	0.16	-0.14	<0.01	<0.01	0.02		0.03	-0.35	-0.22
Gas Flow Rate	l/hr	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	0.1	-0.1	<0.1		<0.1	<0.1	0.7
Comments														Missed during monitoring			



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV158**

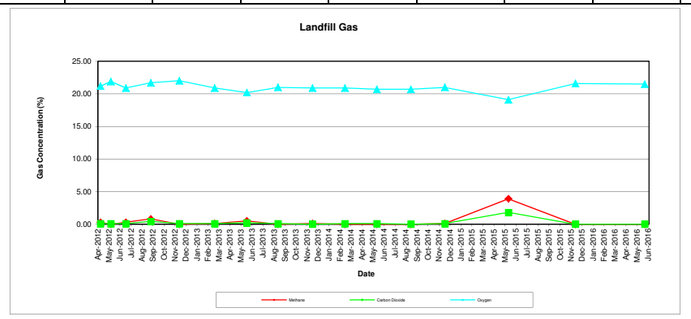
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	07/06/13	06/09/13	10/12/13	07/03/14	06/06/14	08/09/14	08/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	15:23	14:27	14:26	14:13	13:16	14:38	14:13	11:11	13:50	11:00	14:19	14:46
Methane	% vol	0.2	0.2	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
Oxygen	% vol	20.7	20.6	20.4	21.1	21.1	21.2	20.3	20.7	20.4	20.5	21.7	21.4
Atmospheric Pressure	mbars	1000	993	1021	1009	1015	1008	1007	1017	1009	1005	1002	1000
Gas Pressure	mbars	-0.08	-0.18	-0.14	0.16	-0.02	-0.01	<0.01	0.03	0.22	0.02	-0.32	-0.21
Gas Flow Rate	l/hr	<0.1	0.2	-0.1	0.1	0.5	<0.1	-0.3	0.3	<0.1	<0.1	0.3	<0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV159**

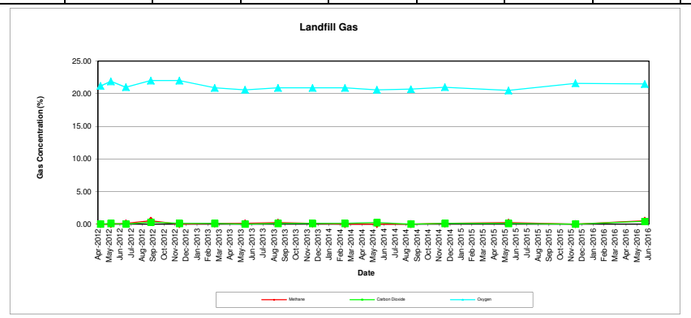
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	12/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	10:50	11:27	11:07	14:40	11:34	12:31	11:31	13:20	12:45	12:28	12:37	11:08	13:24	12:06	13:44	14:13
Methane	% vol	0.30	<0.1	0.30	0.80	<0.1	0.1	0.5	<0.1	0.1	<0.1	<0.1	<0.1	0.1	3.9	<0.1	<0.1
Carbon Dioxide	% vol	0.10	0.10	0.10	0.40	0.10	0.1	0.2	0.1	<0.1	0.1	0.1	<0.1	0.1	1.8	<0.1	<0.1
Oxygen	% vol	21.20	21.90	20.90	21.70	22.00	20.9	20.2	21	20.9	20.9	20.7	20.7	21	19.1	21.6	21.5
Atmospheric Pressure	mbars	1012	1017	1004	1010	999	991	996	1009	1015	1025	1008	1017	985	1004	1002	1000
Gas Pressure	mbars	-0.13	-0.02	0.02	0.14	0.26	<0.01	<0.01	0.13	-0.12	0.03	0.12	<0.01	0.45	0.01	-0.07	-0.19
Gas Flow Rate	l/hr	<0.2	<0.1	<0.1	<0.1	0.10	<0.1	0.1	<0.1	0.5	<0.1	<0.1	0.2	0.1	<0.1	-0.1	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV160**

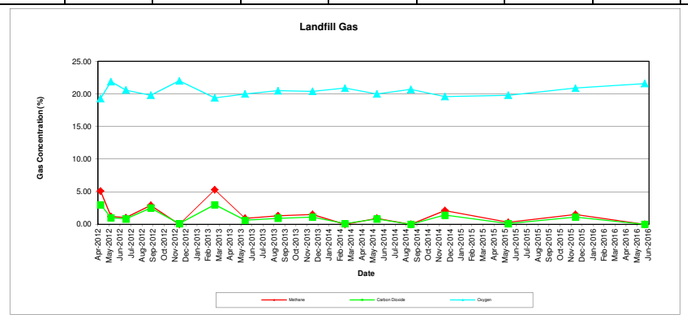
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	10:55	11:24	11:21	14:37	01:31	12:35	12:12	13:22	12:48	12:32	12:33	11:06	13:27	12:10	13:41	14:10
Methane	% vol	<0.1	<0.1	0.10	0.50	<0.1	0.1	0.1	0.2	0.1	<0.1	<0.1	<0.1	0.1	0.2	<0.1	0.5
Carbon Dioxide	% vol	<0.1	0.10	<0.1	0.30	0.10	0.1	<0.1	0.1	0.1	0.1	0.2	<0.1	0.1	0.1	<0.1	0.4
Oxygen	% vol	21.20	21.90	21.00	22.00	22.00	20.9	20.6	20.9	20.9	20.9	20.6	20.7	21	20.5	21.6	21.5
Atmospheric Pressure	mbars	1012	1016	1004	1010	999	991	1022	1009	1015	1024	1007	1017	984	1004	1002	1000
Gas Pressure	mbars	-0.14	0.07	-0.11	0.31	-0.09	0.08	-0.11	0.19	-0.27	0.05	0.02	-0.07	0.27	-0.01	-0.58	-0.15
Gas Flow Rate	l/hr	<0.2	<0.1	-0.2	0.10	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.1	-0.1	<0.1	-0.1	-1.2	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV161**

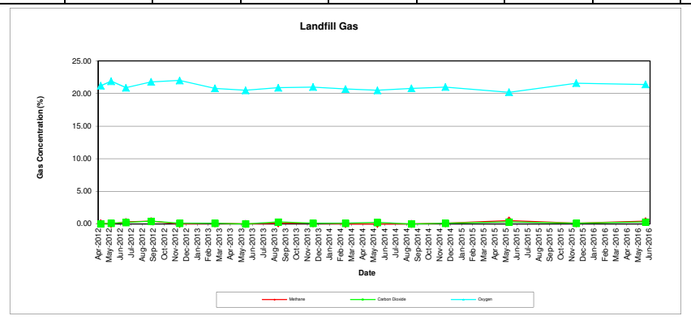
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	10:59	11:21	11:33	14:33	11:28	12:39	12:15	13:25	12:51	12:36	12:30	11:03	13:29	10:22	13:38	14:07
Methane	% vol	5.10	1.20	1.00	2.90	<0.1	5.3	0.9	1.3	1.5	<0.1	0.9	<0.1	2.1	0.3	1.5	<0.1
Carbon Dioxide	% vol	3.00	1.00	0.80	2.50	0.10	3	0.6	0.9	1.1	0.1	0.8	<0.1	1.4	0.1	1.1	<0.1
Oxygen	% vol	19.30	21.90	20.60	19.80	22.00	19.4	20	20.5	20.4	20.9	20	20.7	19.6	19.8	20.9	21.6
Atmospheric Pressure	mbars	1012	1017	1004	1010	999	991	1022	1009	1015	1024	1007	1017	984	1005	1002	1000
Gas Pressure	mbars	-0.15	0.07	0.03	0.09	0.10	0.05	-0.14	0.09	-0.48	0.09	0.03	-0.02	0.34	0.09	-0.74	-0.2
Gas Flow Rate	l/hr	<0.2	0.10	-0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	0.2	<0.1	0.3	<0.1	0.1	-1.2	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV162**

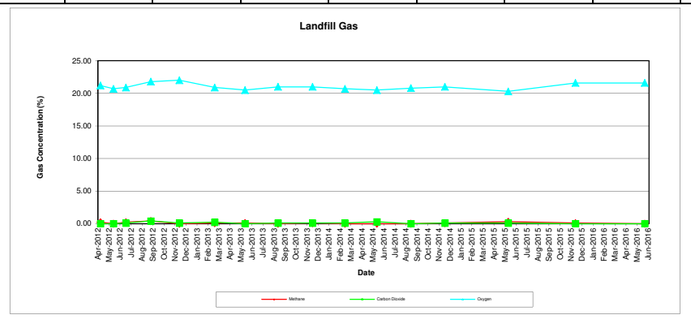
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	11:03	11:17	11:44	14:30	11:24	12:42	12:18	13:28	12:54	12:39	12:27	11:00	13:32	10:26	13:35	14:04
Methane	% vol	0.10	<0.1	0.30	0.40	<0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.1	0.5	0.1	0.4
Carbon Dioxide	% vol	<0.1	0.10	0.20	0.40	0.10	0.1	<0.1	0.3	0.1	0.1	0.2	<0.1	0.1	0.3	0.1	0.3
Oxygen	% vol	21.20	21.90	20.90	21.80	22.00	20.8	20.5	20.9	21	20.7	20.5	20.8	21	20.2	21.6	21.4
Atmospheric Pressure	mbars	1012	1017	1004	1010	999	991	1022	1009	1014	1024	1007	1017	984	1005	1002	1000
Gas Pressure	mbars	-0.13	<0.01	-0.04	0.09	0.05	0.06	-0.2	0.09	<0.01	0.17	0.03	0.08	0.15	0.05	-0.27	-0.3
Gas Flow Rate	l/hr	<0.2	<0.1	-0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	-0.1	0.2	<0.1	0.1	<0.1	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV163**

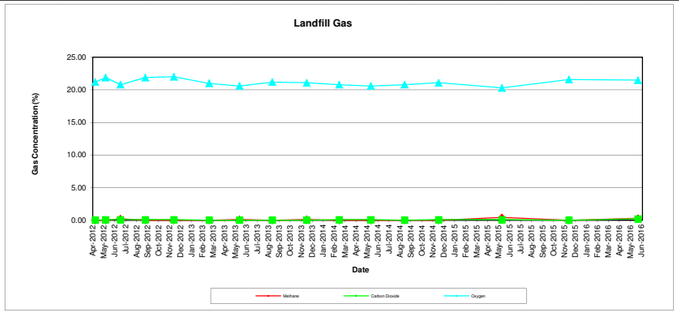
Determinand	**Units**																
Date monitored	-	03/05/12	08/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	11:06	13:29	12:11	14:27	11:20	12:45	12:21	13:31	12:58	12:43	12:24	10:57	13:34	10:30	13:32	14:01
Methane	% vol	0.20	<0.1	0.20	0.40	<0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	0.3	0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	0.10	0.40	0.10	0.2	<0.1	0.1	0.1	0.1	0.3	<0.1	0.1	0.1	<0.1	<0.1
Oxygen	% vol	21.20	20.70	20.90	21.80	22.00	20.9	20.5	21	21	20.7	20.5	20.8	21	20.3	21.6	21.6
Atmospheric Pressure	mbars	1012	989	1004	1010	998	991	1022	1009	1014	1024	1007	1016	984	1005	1002	1000
Gas Pressure	mbars	-0.13	<0.01	-0.13	-0.12	0.17	-0.16	-0.18	0.18	-0.07	-0.09	-0.03	0.04	0.24	0.12	-0.86	-0.17
Gas Flow Rate	l/hr	<0.2	-0.10	<0.1	<0.1	-0.10	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.2	<0.1	0.1	-1	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV164

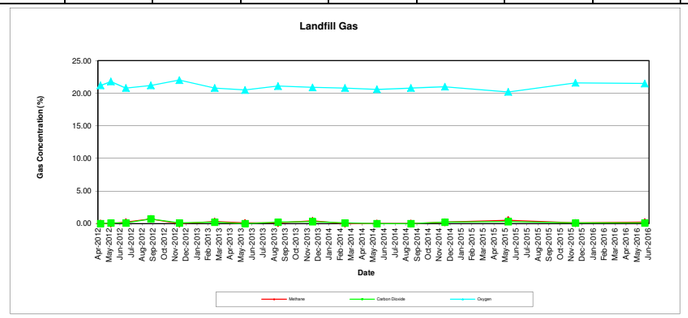
Determinand	Units																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	11:09	11:10	13:58	14:24	11:17	12:49	12:24	12:21	13:01	12:46	12:20	10:54	13:37	10:36	13:28	13:58
Methane	% vol	<0.1	<0.1	0.20	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	0.3
Carbon Dioxide	% vol	<0.1	0.10	0.10	0.10	0.10	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	0.1	<0.1	0.2
Oxygen	% vol	21.20	21.90	20.80	21.90	22.00	21	20.6	21.2	21.1	20.8	20.6	20.8	21.1	20.3	21.6	21.5
Atmospheric Pressure	mbars	1012	1017	1004	1010	998	991	1022	1008	1014	1024	1007	1016	984	1005	1002	1000
Gas Pressure	mbars	-0.14	0.03	-0.16	-0.24	0.09	0.01	-0.16	0.09	-0.17	-0.12	0.07	0.05	0.32	0.03	-0.07	-0.16
Gas Flow Rate	l/hr	<0.2	0.10	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.4	<0.1	<0.1	0.2	<0.1	<0.1	0.1	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV165**

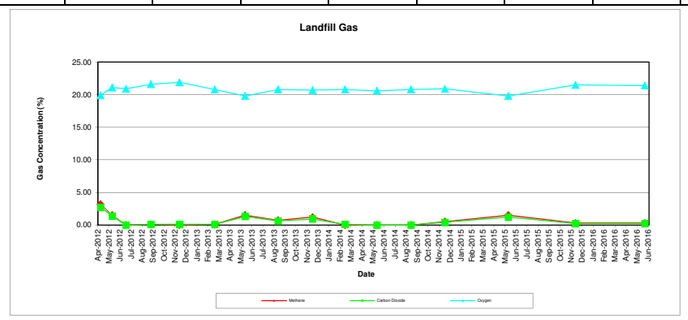
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	11:12	11:07	14:01	14:20	11:14	12:52	12:27	12:18	13:03	12:52	12:17	10:51	13:39	10:41	13:25	13:54
Methane	% vol	<0.1	<0.1	0.20	0.70	<0.1	0.3	0.1	0.1	0.4	<0.1	<0.1	<0.1	0.2	0.5	0.1	0.2
Carbon Dioxide	% vol	<0.1	0.10	0.10	0.70	0.10	0.2	<0.1	0.2	0.3	0.1	<0.1	<0.1	0.2	0.3	0.1	0.1
Oxygen	% vol	21.20	21.80	20.80	21.20	22.00	20.8	20.5	21.1	20.9	20.8	20.6	20.8	21	20.2	21.6	21.5
Atmospheric Pressure	mbars	1012	1016	1003	1010	998	991	1022	1008	1014	1025	1007	1016	984	1005	1002	1000
Gas Pressure	mbars	-0.14	-0.12	-0.10	-0.22	0.17	0.06	-0.15	0.02	-0.08	-0.5	0.09	0.08	0.3	0.03	-0.26	-0.15
Gas Flow Rate	l/hr	<0.2	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	0.2	0.1	-0.4	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV166**

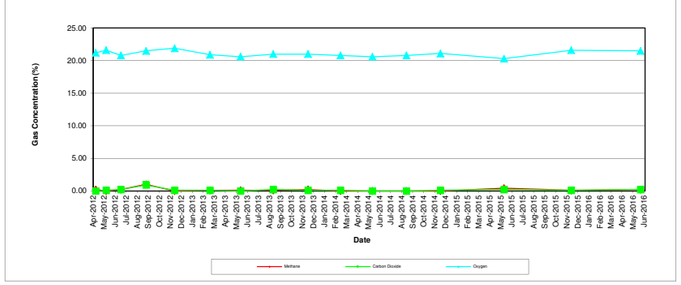
Determinand	**Units**																
Date monitored	-	03/05/12	04/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	11:15	14:25	14:06	14:17	11:10	12:55	12:31	12:15	13:06	12:56	12:15	10:48	13:41	10:45	13:21	13:51
Methane	% vol	3.20	1.50	<0.1	0.10	<0.1	0.1	1.5	0.7	1.2	<0.1	<0.1	<0.1	0.5	1.5	0.3	0.3
Carbon Dioxide	% vol	2.70	1.40	<0.1	0.10	0.10	0.1	1.3	0.6	0.9	0.1	<0.1	<0.1	0.4	1.2	0.2	0.2
Oxygen	% vol	19.90	21.10	20.90	21.60	21.90	20.8	19.8	20.8	20.7	20.8	20.6	20.8	20.9	19.8	21.5	21.4
Atmospheric Pressure	mbars	1012	1011	1004	1010	998	991	1022	1008	1014	1025	1007	1017	984	1005	1002	1000
Gas Pressure	mbars	-0.12	-0.21	-0.17	-0.17	-0.19	0.03	-0.17	0.16	-0.28	-0.02	-0.02	0.04	0.22	0.05	-0.16	-0.15
Gas Flow Rate	l/hr	<0.2	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.2	<0.1	-0.1	0.1	0.1	0.2	-0.5	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV167**

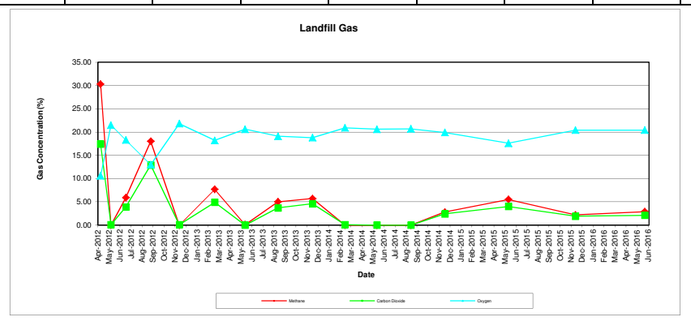
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	11:19	10:59	14:09	14:14	11:06	12:59	12:34	12:11	13:10	12:58	12:11	10:46	13:43	10:50	13:18	13:48
Methane	% vol	0.20	<0.1	0.20	1.00	<0.1	0.1	0.1	0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.4	0.1	0.2
Carbon Dioxide	% vol	<0.1	0.10	0.20	0.90	0.10	0.1	<0.1	0.2	0.1	0.1	<0.1	<0.1	0.1	0.2	0.1	0.2
Oxygen	% vol	21.20	21.60	20.80	21.50	21.90	20.9	20.6	21	21	20.8	20.6	20.8	21.1	20.3	21.6	21.5
Atmospheric Pressure	mbars	1012	1017	1004	1010	998	991	1022	1008	1014	1025	1007	1017	984	1005	1002	1001
Gas Pressure	mbars	-0.12	0.12	-0.10	-0.09	-0.15	0.11	-0.17	0.16	-0.1	-0.02	0.21	-0.06	<0.01	0.03	-0.16	-0.21
Gas Flow Rate	l/hr	<0.2	<0.1	-0.2	-0.10	0.10	<0.1	<0.1	0.1	0.4	0.1	<0.1	<0.1	0.3	<0.1	-0.3	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV168**

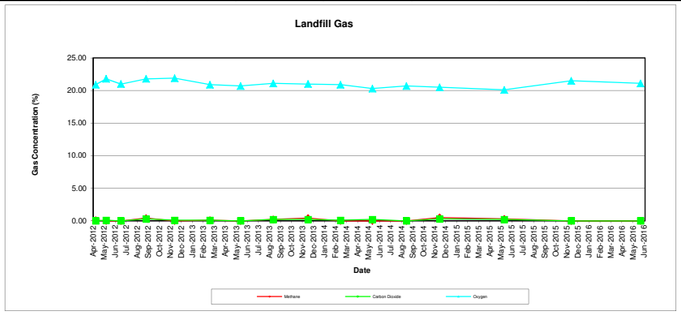
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	11/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	11:22	10:55	14:13	14:11	11:03	13:02	12:38	12:07	13:13	13:01	12:08	10:42	13:46	10:53	13:16	13:45
Methane	% vol	30.30	<0.1	5.90	18.00	<0.1	7.7	0.1	5	5.7	<0.1	<0.1	<0.1	2.8	5.5	2.2	2.9
Carbon Dioxide	% vol	17.40	0.10	3.90	12.90	0.10	4.9	<0.1	3.7	4.6	0.1	<0.1	<0.1	2.4	4	1.9	2.1
Oxygen	% vol	10.60	21.50	18.30	13.00	21.80	18.2	20.6	19.1	18.8	20.9	20.6	20.7	19.9	17.6	20.4	20.4
Atmospheric Pressure	mbars	1012	1017	1004	1010	998	991	1022	1008	1014	1025	1008	1016	984	1005	1002	1000
Gas Pressure	mbars	-0.15	-0.03	-0.01	-0.05	-0.03	-0.13	-0.19	0.27	-0.1	-0.07	0.03	-0.14	0.24	-0.02	-0.26	-0.22
Gas Flow Rate	l/hr	<0.2	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	0.3	0.1	<0.1	<0.1	<0.1	<0.1	0.2	-0.4
Comments									Tap stuck open.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV169**

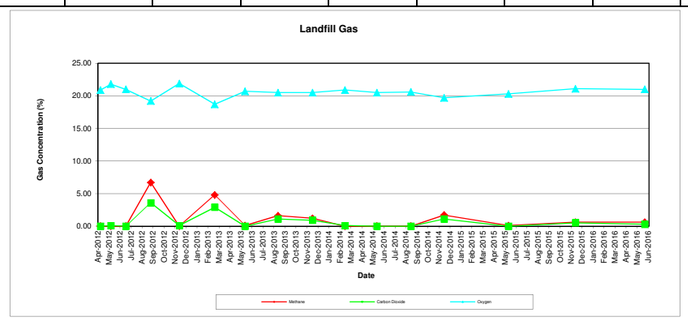
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	12:04	11:34	11:12	14:44	11:38	12:28	11:48	12:43	12:04	12:24	11:46	10:39	12:10	13:22	12:55	13:19
Methane	% vol	0.10	<0.1	<0.1	0.40	<0.1	0.1	<0.1	0.2	0.4	<0.1	<0.1	<0.1	0.5	0.3	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	0.10	<0.1	0.30	0.10	0.1	<0.1	0.2	0.2	0.1	0.2	<0.1	0.3	0.2	<0.1	<0.1
Oxygen	% vol	20.90	21.80	21.00	21.80	21.90	20.9	20.7	21.1	21	20.9	20.3	20.7	20.5	20.1	21.5	21.1
Atmospheric Pressure	mbars	1012	1017	1004	1010	999	991	1022	1008	1015	1025	1007	1016	997	1005	1003	1001
Gas Pressure	mbars	-0.18	-0.03	0.07	0.19	0.12	0.11	<0.01	0.14	-0.04	<0.01	0.09	0.09	<0.01	0.02	-0.25	-0.18
Gas Flow Rate	l/hr	<0.2	<0.1	-0.3	0.20	<0.1	-0.1	<0.1	0.1	0.1	<0.1	<0.1	0.1	0.5	<0.1	<0.1	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV170**

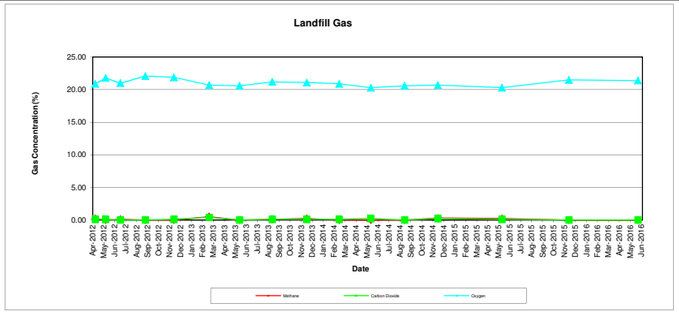
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	12:07	11:37	11:16	14:47	11:41	12:25	11:46	12:39	12:01	12:21	11:49	10:33	12:14	13:26	12:58	13:24
Methane	% vol	<0.1	<0.1	<0.1	6.70	<0.1	4.8	0.1	1.6	1.2	<0.1	<0.1	<0.1	1.7	0.1	0.6	0.6
Carbon Dioxide	% vol	<0.1	0.10	<0.1	3.60	0.10	2.9	<0.1	1.1	0.9	0.1	<0.1	<0.1	1.1	<0.1	0.5	0.3
Oxygen	% vol	20.90	21.80	21.00	19.20	21.90	18.7	20.7	20.5	20.5	20.9	20.5	20.6	19.7	20.3	21.1	21
Atmospheric Pressure	mbars	1012	1017	1004	1010	999	991	1022	1008	1014	1025	1007	1016	997	1005	1002	1001
Gas Pressure	mbars	<0.01	0.07	<0.01	0.15	0.17	0.12	-0.03	0.12	0.03	<0.01	0.03	0.03	0.04	0.06	-0.09	-0.28
Gas Flow Rate	l/hr	<0.2	<0.1	-0.2	0.20	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	-0.1	-0.3	0.5	<0.1	<0.1	-0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV171**

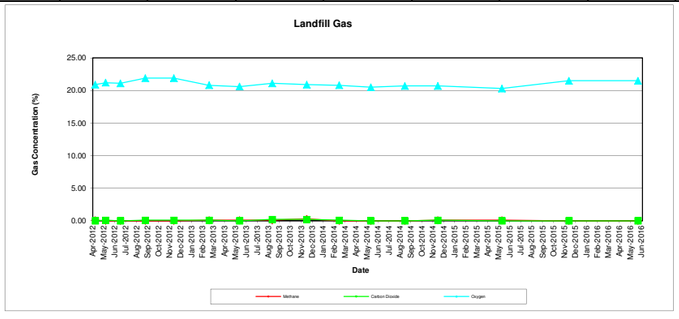
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	12:10	11:41	11:37	14:51	11:45	12:22	11:41	12:35	11:57	12:18	11:52	10:30	12:17	13:30	13:01	13:27
Methane	% vol	0.20	<0.1	0.10	<0.1	<0.1	0.5	<0.1	0.1	0.2	<0.1	<0.1	<0.1	0.3	0.2	<0.1	<0.1
Carbon Dioxide	% vol	0.10	0.10	<0.1	<0.1	0.10	0.4	<0.1	0.1	0.1	0.1	0.2	<0.1	0.2	0.1	<0.1	<0.1
Oxygen	% vol	20.90	21.80	21.00	22.10	21.90	20.7	20.6	21.2	21.1	20.9	20.3	20.6	20.7	20.3	21.5	21.4
Atmospheric Pressure	mbars	1012	1017	1004	1011	999	991	1022	1008	1015	1024	1007	1016	996	1004	1002	1001
Gas Pressure	mbars	-0.16	0.09	-0.01	0.19	-0.03	0.04	-0.13	0.23	-0.11	-0.02	0.17	0.09	0.18	<0.01	-0.1	-0.22
Gas Flow Rate	l/hr	<0.2	<0.1	-0.1	<0.1	0.10	-0.1	<0.1	<0.1	0.4	<0.1	<0.1	-0.5	0.3	0.1	<0.1	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV172

Determinand	Units																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	12:13	12:05	11:41	14:57	11:48	12:18	11:38	12:32	11:54	12:14	11:55	15:31	12:20	13:33	13:03	13:31
Methane	% vol	0.10	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.3	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	0.10	<0.1	0.10	0.10	0.1	<0.1	0.2	0.2	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
Oxygen	% vol	20.90	21.20	21.10	21.90	21.90	20.8	20.6	21.1	20.9	20.8	20.5	20.7	20.7	20.3	21.5	21.5
Atmospheric Pressure	mbars	1011	1017	1004	1010	999	991	1022	1008	1015	1024	1007	1014	996	1004	1002	1001
Gas Pressure	mbars	-0.13	-0.05	0.05	0.21	-0.24	-0.44	-0.14	0.15	-0.03	0.1	0.12	-0.1	0.2	0.14	-0.35	-0.16
Gas Flow Rate	l/hr	<0.2	<0.1	-0.1	<0.1	0.10	-0.4	<0.1	<0.1	-0.4	0.1	<0.1	0.3	0.3	-0.2	-0.4	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

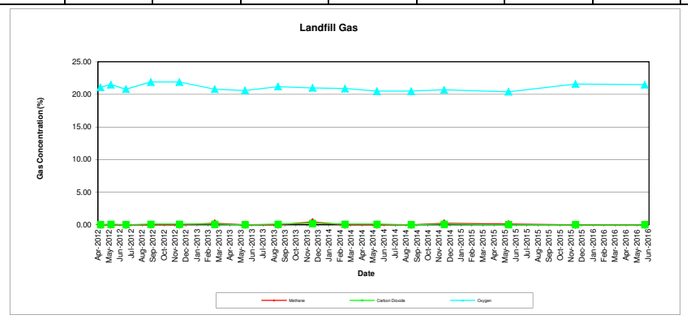
Sampling Location	**GV173**

Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	08/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	12:17	12:10	12:15	15:00	11:52	12:15	11:35	12:29	11:51	12:11	11:58	15:34	12:23	13:36	13:06	13:34
Methane	% vol	<0.1	<0.1	0.40	1.90	<0.1	<0.1	<0.1	0.1	0.4	<0.1	<0.1	<0.1	1.8	0.6	0.4	0.1
Carbon Dioxide	% vol	<0.1	0.10	0.30	1.40	0.10	<0.1	<0.1	0.1	0.3	0.1	<0.1	<0.1	1.4	0.4	0.3	<0.1
Oxygen	% vol	21.00	21.40	20.80	21.00	21.90	20.9	20.6	21.1	20.9	20.8	20.5	20.7	20.1	20.1	21.4	21.5
Atmospheric Pressure	mbars	1011	1017	1004	1010	999	991	1022	1009	1014	1024	1007	1014	996	1004	1002	1001
Gas Pressure	mbars	-0.12	0.14	0.01	0.22	-0.05	0.04	-0.12	0.2	-0.09	-0.09	0.05	-0.19	-0.17	0.16	-0.19	-0.24
Gas Flow Rate	l/hr	<0.2	<0.1	<0.1	0.30	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	-0.1	0.3	<0.1	<0.1	<0.1
Comments																	

Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV174**

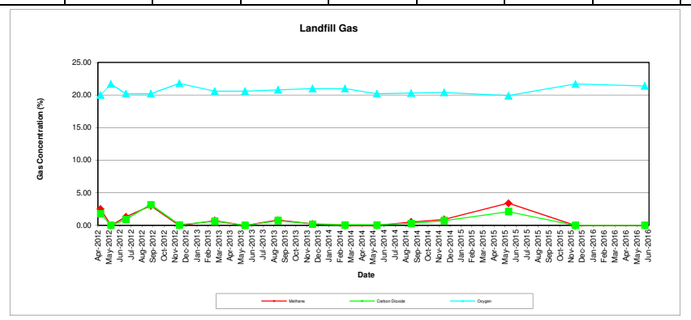
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	12:21	12:14	13:54	15:04	11:55	12:12	11:30	12:25	11:48	12:07	12:02	13:33	12:26	13:40	13:09	13:37
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	0.2	0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	0.10	<0.1	0.10	0.10	0.1	<0.1	0.1	0.2	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1
Oxygen	% vol	21.10	21.50	20.80	21.90	21.90	20.8	20.6	21.2	21	20.9	20.5	20.5	20.7	20.4	21.6	21.5
Atmospheric Pressure	mbars	1011	1017	1004	1010	999	991	1022	1008	1014	1024	1007	1015	996	1004	1002	1000
Gas Pressure	mbars	-0.16	0.07	-0.12	-0.12	-0.03	0.03	-0.12	0.12	0.03	0.12	0.15	-0.2	-0.1	0.19	-0.22	-0.26
Gas Flow Rate	l/hr	<0.2	<0.1	-0.2	0.20	0.10	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.2	0.4	<0.1	<0.1	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV175**

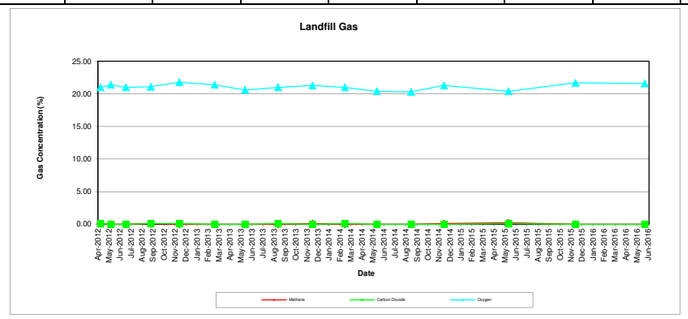
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	12:48	12:38	14:18	14:05	11:58	13:05	11:26	12:03	11:36	11:41	11:24	12:22	12:32	14:08	11:59	14:51
Methane	% vol	2.50	<0.1	1.30	3.00	<0.1	0.7	<0.1	0.8	0.2	<0.1	<0.1	0.5	0.9	3.4	<0.1	<0.1
Carbon Dioxide	% vol	1.80	<0.1	0.90	3.20	0.10	0.6	<0.1	0.7	0.2	0.1	0.1	0.3	0.7	2.1	<0.1	<0.1
Oxygen	% vol	20.00	21.70	20.20	20.20	21.80	20.6	20.6	20.8	21	21	20.2	20.3	20.4	19.9	21.7	21.4
Atmospheric Pressure	mbars	1011	1017	1004	1010	999	991	1023	1008	1015	1024	1007	1015	996	1004	1002	1000
Gas Pressure	mbars	-0.25	-0.02	-0.06	0.17	-0.09	-0.07	-0.11	0.15	-0.05	0.22	0.1	-0.19	-0.16	0.18	-0.52	-0.23
Gas Flow Rate	l/hr	<0.2	0.10	-0.1	-0.20	0.10	<0.1	<0.1	<0.1	-0.5	0.1	-0.1	0.1	0.9	<0.1	-0.7	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV176

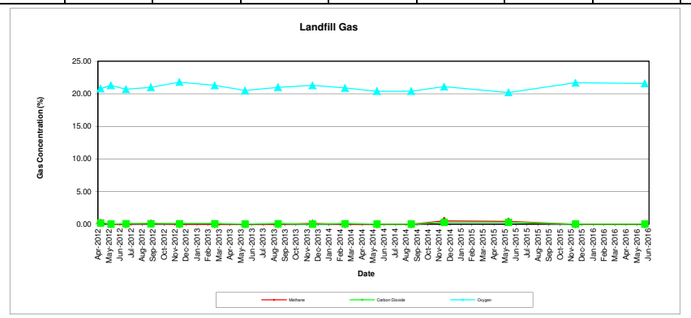
Determinand	Units																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	12:30	12:20	12:23	12:47	12:18	10:17	10:15	11:43	10:18	11:46	11:40	12:07	10:24	13:46	11:33	12:38
Methane	% vol	0.10	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	0.10	<0.1	<0.1	0.10	0.10	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Oxygen	% vol	21.00	21.40	21.00	21.10	21.80	21.4	20.6	21	21.3	21	20.4	20.3	21.3	20.4	21.7	21.6
Atmospheric Pressure	mbars	1011	1017	1004	1010	1000	990	1023	1009	1015	1024	1008	1016	1001	1004	1002	1001
Gas Pressure	mbars	-0.15	0.15	-0.06	0.17	0.05	-0.33	0.06	0.11	-0.05	0.22	0.09	-0.16	0.24	0.18	<0.01	-0.16
Gas Flow Rate	l/hr	<0.2	<0.1	<0.1	-0.10	0.10	0.1	-0.1	<0.1	0.1	0.1	0.1	0.1	0.6	-0.1	0.1	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV177**

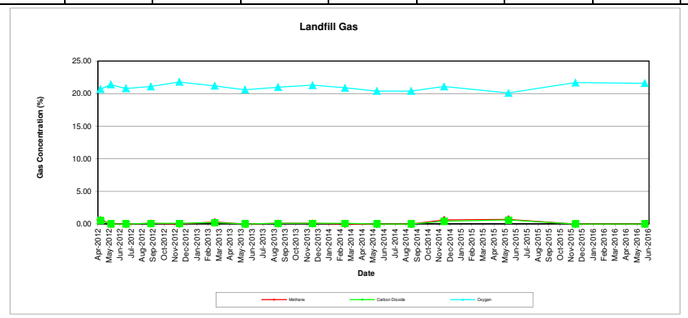
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	12:34	12:25	13:25	12:45	12:14	10:19	10:17	11:48	10:22	11:57	11:36	12:10	10:27	13:50	11:36	12:34
Methane	% vol	0.20	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.5	0.4	<0.1	<0.1
Carbon Dioxide	% vol	0.20	<0.1	0.10	0.10	0.10	0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	0.3	0.3	<0.1	<0.1
Oxygen	% vol	20.80	21.30	20.70	21.00	21.80	21.3	20.5	21	21.3	20.9	20.4	20.4	21.1	20.2	21.7	21.6
Atmospheric Pressure	mbars	1011	1017	1005	1010	1000	990	1023	1009	1015	1025	1008	1016	1000	1004	1002	1001
Gas Pressure	mbars	-0.21	-0.19	-0.02	0.03	-0.07	-0.17	0.05	0.16	-0.12	0.1	0.19	-0.15	0.59	0.13	-0.14	-0.15
Gas Flow Rate	l/hr	<0.2	0.10	0.1	0.10	<0.1	<0.1	-0.1	<0.1	0.1	<0.1	-0.1	0.1	-0.3	-0.2	-0.5	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV178**

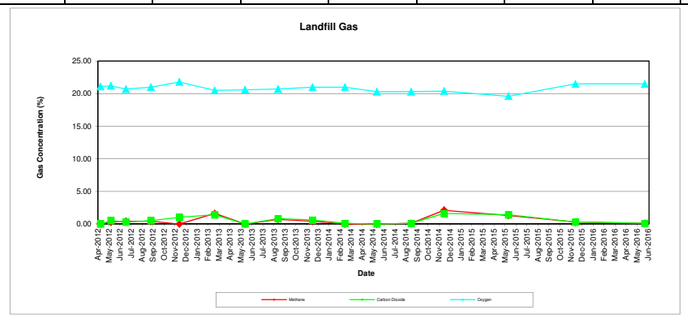
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	12:37	12:28	13:49	12:51	12:10	10:23	10:20	11:51	10:25	11:53	11:33	12:13	10:30	13:53	11:40	12:31
Methane	% vol	0.60	<0.1	<0.1	0.10	<0.1	0.3	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.6	0.7	<0.1	<0.1
Carbon Dioxide	% vol	0.50	<0.1	<0.1	0.10	0.10	0.2	<0.1	0.1	0.1	0.1	<0.1	<0.1	0.4	0.6	<0.1	<0.1
Oxygen	% vol	20.70	21.40	20.80	21.10	21.80	21.2	20.6	21	21.3	20.9	20.4	20.4	21.1	20.1	21.7	21.6
Atmospheric Pressure	mbars	1012	1017	1004	1010	1000	991	1023	1009	1015	1025	1008	1016	1000	1004	1002	1001
Gas Pressure	mbars	-0.14	-0.02	-0.13	0.07	-0.22	-0.01	0.03	0.11	-0.12	0.14	0.1	-0.19	0.15	0.16	-0.14	-0.12
Gas Flow Rate	l/hr	<0.2	<0.1	-0.2	<0.1	<0.1	0.9	-0.1	<0.1	0.3	<0.1	<0.1	0.1	-0.2	-0.1	-0.4	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV179**

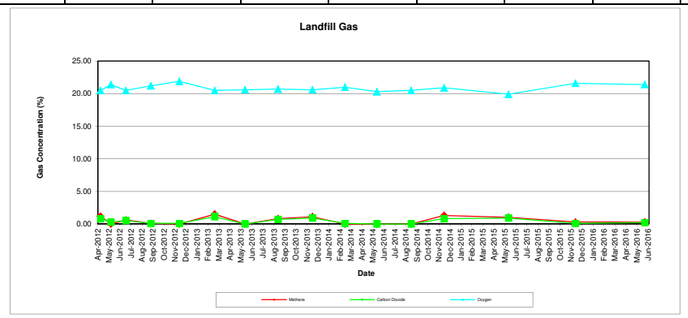
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	12:41	12:32	13:07	12:54	12:07	10:27	10:23	11:54	10:28	11:48	11:30	12:15	10:33	13:57	11:45	12:28
Methane	% vol	<0.1	0.30	0.40	0.40	>0.1	1.6	<0.1	0.7	0.4	<0.1	<0.1	0.1	2.1	1.3	0.3	0.1
Carbon Dioxide	% vol	<0.1	0.50	0.30	0.50	1.00	1.4	<0.1	0.8	0.6	0.1	<0.1	0.1	1.6	1.4	0.3	0.1
Oxygen	% vol	21.10	21.20	20.70	21.00	21.80	20.5	20.6	20.7	21	21	20.3	20.3	20.4	19.6	21.5	21.5
Atmospheric Pressure	mbars	1012	1017	1004	1010	1000	991	1023	1009	1015	1025	1008	1016	1000	1004	1002	1000
Gas Pressure	mbars	-0.14	0.15	-0.04	0.26	0.09	0.09	0.01	0.12	0.01	0.09	0.12	-0.15	0.13	0.12	-0.33	-0.1
Gas Flow Rate	l/hr	<0.2	0.10	<0.1	<0.1	0.10	0.4	<0.1	0.1	<0.1	0.1	-0.1	0.1	0.1	-0.1	0.2	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV180**

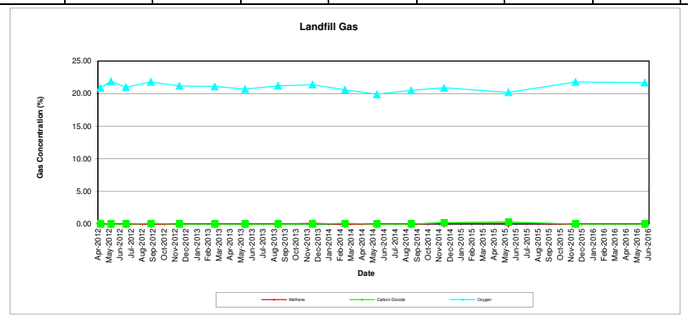
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	12:44	12:35	13:02	12:57	12:04	10:31	10:26	11:57	10:31	11:44	11:26	12:18	10:36	14:01	11:48	12:25
Methane	% vol	1.20	<0.1	0.60	0.10	<0.1	1.5	<0.1	0.8	1.1	<0.1	<0.1	<0.1	1.3	1	0.3	0.3
Carbon Dioxide	% vol	0.80	0.30	0.50	0.10	0.10	1.1	<0.1	0.7	0.9	0.1	<0.1	<0.1	0.8	0.9	0.1	0.2
Oxygen	% vol	20.50	21.40	20.50	21.20	21.90	20.5	20.6	20.7	20.6	21	20.3	20.5	20.9	19.9	21.6	21.4
Atmospheric Pressure	mbars	1011	1017	1004	1010	1000	990	1023	1008	1014	1024	1007	1016	1001	1004	1002	1000
Gas Pressure	mbars	-0.15	-0.19	0.04	0.17	-0.29	-0.2	<0.01	-0.05	-0.12	0.07	0.03	-0.17	0.68	0.1	-0.36	-0.16
Gas Flow Rate	l/hr	<0.2	0.10	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	0.3	0.1	-0.2	0.1	0.4	-0.1	-0.1	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV181**

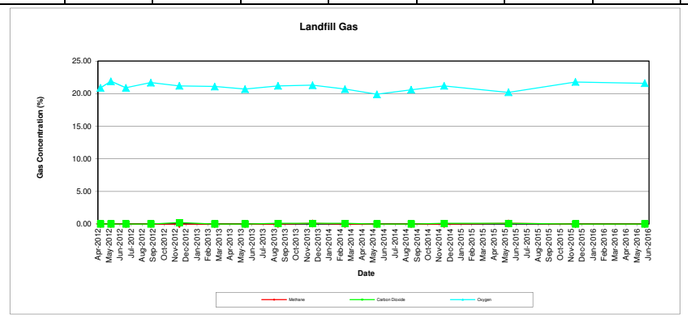
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	13:16	13:07	12:28	13:39	13:00	11:02	10:51	11:18	10:58	11:13	10:42	12:46	11:03	14:41	11:28	11:54
Methane	% vol	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.2	0.3	<0.1	<0.1
Oxygen	% vol	20.90	21.90	21.00	21.80	21.20	21.1	20.7	21.2	21.4	20.6	19.9	20.5	20.9	20.2	21.8	21.7
Atmospheric Pressure	mbars	1012	1018	1005	1012	1001	992	1023	1009	1016	1024	1009	1017	1001	1004	1003	1003
Gas Pressure	mbars	-0.17	0.03	-0.06	-0.02	-0.03	0.06	-0.06	0.06	-0.05	0.09	0.05	-0.18	0.07	0.1	-0.04	-0.2
Gas Flow Rate	l/hr	<0.2	<0.1	-0.1	-0.10	0.10	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	0.2	-0.1	<0.1	0.1	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV182**

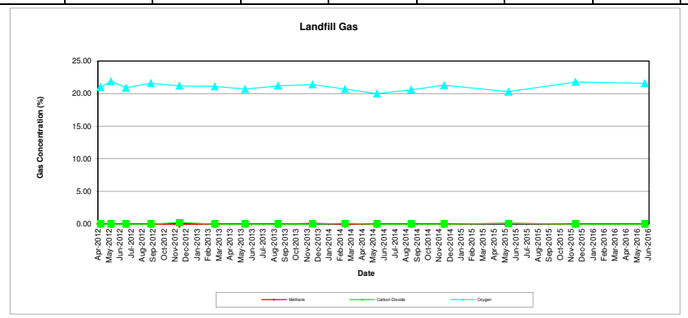
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	13:14	13:04	13:21	13:44	13:04	10:59	10:48	11:15	10:55	11:17	11:00	12:43	11:00	14:38	11:24	11:58
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	0.20	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1
Oxygen	% vol	20.90	21.90	20.90	21.70	21.20	21.1	20.7	21.2	21.3	20.7	19.9	20.6	21.2	20.2	21.8	21.6
Atmospheric Pressure	mbars	1013	1018	1005	1012	1001	993	1024	1010	1016	1025	1008	1017	1002	1005	1004	1002
Gas Pressure	mbars	-0.20	-0.02	0.15	0.09	0.03	-0.03	-0.06	0.09	-0.03	0.02	0.03	-0.17	-0.13	0.01	-0.17	0.05
Gas Flow Rate	l/hr	<0.2	0.10	0.1	-0.10	<0.1	<0.1	<0.1	0.1	0.2	0.1	-0.1	0.1	<0.1	<0.1	<0.1	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV183**

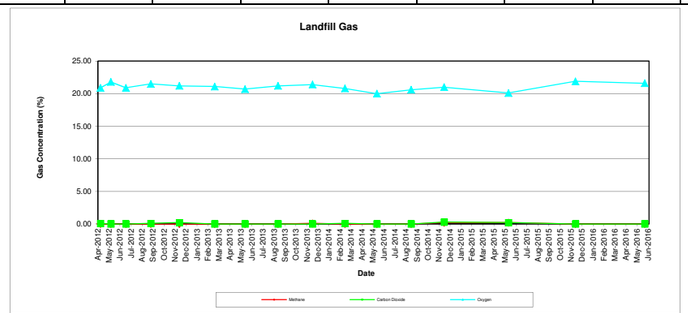
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	13:10	13:31	13:17	13:47	13:07	10:56	10:45	11:11	10:52	11:20	11:03	12:40	10:57	14:34	11:20	12:01
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	0.20	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Oxygen	% vol	21.00	21.90	20.90	21.60	21.20	21.1	20.7	21.2	21.4	20.7	20	20.6	21.3	20.3	21.8	21.6
Atmospheric Pressure	mbars	1012	1019	1005	1012	1002	992	1024	1010	1016	1025	1009	1017	1001	1005	1004	1002
Gas Pressure	mbars	-0.18	0.05	<0.01	0.09	-0.14	0.04	-0.07	0.14	-0.12	<0.01	0.1	-0.15	-0.3	0.04	-0.33	-0.14
Gas Flow Rate	l/hr	<0.2	0.10	<0.1	-0.10	<0.1	-0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	-0.1	-0.1	0.2	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV184**

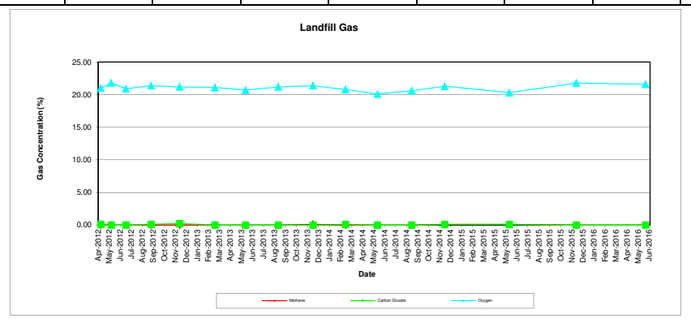
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	13:06	12:58	13:14	13:50	13:10	10:52	10:42	11:07	10:49	11:23	11:05	12:37	10:54	14:30	11:17	12:04
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	0.2	<0.1	<0.1
Carbon Dioxide	% vol	0.10	<0.1	<0.1	0.10	0.20	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.3	0.2	<0.1	<0.1
Oxygen	% vol	20.90	21.80	20.90	21.50	21.20	21.1	20.7	21.2	21.4	20.8	20	20.6	21	20.1	21.9	21.6
Atmospheric Pressure	mbars	1012	1018	1005	1012	1002	992	1023	1009	1016	1025	1009	1016	1001	1004	1003	1002
Gas Pressure	mbars	-0.17	-0.02	-0.22	0.05	0.02	0.16	-0.04	0.04	-0.04	0.12	0.14	-0.14	0.12	0.1	-0.13	-0.17
Gas Flow Rate	l/hr	<0.2	<0.1	<0.1	-0.10	<0.1	<0.1	<0.1	<0.1	0.2	0.1	-0.1	0.2	<0.1	<0.1	-0.2	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV185**

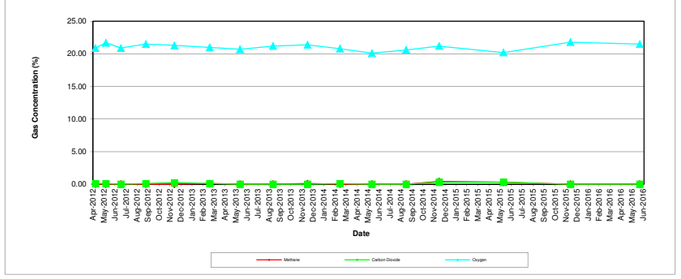
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	13:03	12:54	13:10	13:54	13:14	10:50	10:39	11:04	10:46	11:27	11:09	12:34	10:50	14:26	11:14	12:07
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	0.10	<0.1	<0.1	0.10	0.20	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1
Oxygen	% vol	21.00	21.80	20.90	21.40	21.20	21.1	20.7	21.2	21.4	20.8	20.1	20.6	21.3	20.3	21.8	21.6
Atmospheric Pressure	mbars	1012	1018	1005	1012	1002	991	1023	1009	1015	1025	1008	1016	1001	1004	1003	1002
Gas Pressure	mbars	-0.19	<0.01	-0.11	0.17	-0.05	0.05	-0.05	0.26	-0.16	0.14	<0.01	-0.16	0.03	0.14	-0.26	-0.17
Gas Flow Rate	l/hr	<0.2	<0.1	<0.1	-0.20	0.10	-0.2	<0.1	<0.1	0.1	0.2	-0.1	0.2	<0.1	-0.2	-0.6	-0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV186**

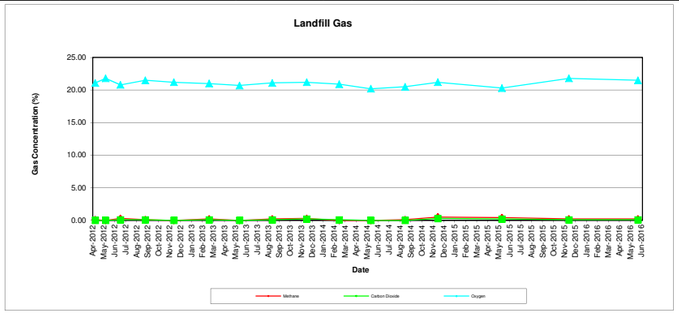
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	12:59	12:50	12:58	13:57	13:17	10:47	10:36	11:00	10:43	11:30	11:12	12:32	10:47	14:22	11:11	12:11
Methane	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.4	0.3	<0.1	<0.1
Carbon Dioxide	% vol	0.10	0.10	<0.1	0.10	0.20	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.3	0.3	<0.1	<0.1
Oxygen	% vol	20.90	21.70	20.90	21.50	21.30	21	20.7	21.2	21.4	20.8	20.1	20.6	21.2	20.2	21.8	21.5
Atmospheric Pressure	mbars	1011	1017	1005	1011	1002	991	1023	1008	1015	1025	1008	1016	1000	1004	1002	1001
Gas Pressure	mbars	-0.18	-0.07	-0.09	0.09	0.05	-0.04	-0.01	0.24	0.12	<0.01	0.21	-0.15	-0.21	0.09	-0.19	-0.1
Gas Flow Rate	l/hr	0.2	0.10	<0.1	-0.10	<0.1	-0.1	<0.1	<0.1	0.2	0.1	<0.1	0.1	-0.4	<0.1	-0.7	-0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV187**

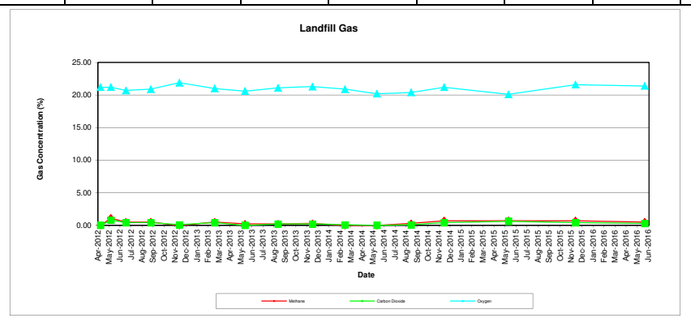
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	12:56	12:47	14:27	14:00	13:20	10:43	10:33	10:57	10:40	11:34	11:15	12:29	10:44	14:16	11:07	12:14
Methane	% vol	0.10	<0.1	0.30	0.10	<0.1	0.2	<0.1	0.2	0.3	<0.1	<0.1	0.1	0.5	0.4	0.2	0.2
Carbon Dioxide	% vol	<0.1	<0.1	0.10	0.10	<0.1	0.1	<0.1	0.1	0.2	0.1	<0.1	<0.1	0.3	0.2	0.1	0.1
Oxygen	% vol	21.10	21.80	20.80	21.50	21.20	21	20.7	21.1	21.2	20.9	20.2	20.5	21.2	20.3	21.8	21.5
Atmospheric Pressure	mbars	1011	1017	1004	1011	1001	991	1022	1008	1014	1025	1008	1015	1000	1004	1001	1001
Gas Pressure	mbars	-0.23	<0.01	-0.04	0.19	0.14	0.15	-0.02	0.11	-0.03	0.14	0.1	-0.11	0.13	0.11	-0.09	-0.13
Gas Flow Rate	l/hr	<0.2	0.10	<0.1	-0.20	0.10	<0.1	<0.1	<0.1	0.3	0.1	<0.1	0.2	0.5	<0.1	-0.3	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV188**

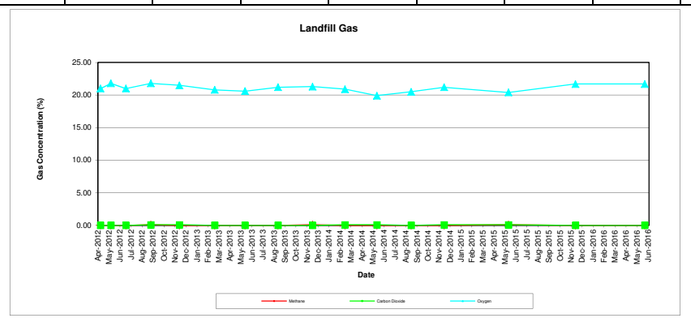
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	12:52	12:44	14:22	13:05	12:01	10:35	10:30	10:50	10:37	11:38	11:19	12:27	10:42	14:11	11:02	12:20
Methane	% vol	<0.1	1.10	0.50	0.50	<0.1	0.5	0.2	0.2	0.3	<0.1	<0.1	0.3	0.7	0.7	0.7	0.5
Carbon Dioxide	% vol	<0.1	0.80	0.40	0.40	0.10	0.4	<0.1	0.2	0.2	0.1	<0.1	0.1	0.4	0.6	0.4	0.3
Oxygen	% vol	21.20	21.20	20.70	20.90	21.90	21	20.6	21.1	21.3	20.9	20.2	20.4	21.2	20.1	21.6	21.4
Atmospheric Pressure	mbars	1011	1017	1004	1010	1000	991	1022	1008	1014	1024	1007	1015	1001	1004	1002	1001
Gas Pressure	mbars	-0.24	-0.14	-0.09	0.05	0.07	0.04	-0.01	0.17	<0.01	0.12	0.05	-0.15	<0.01	0.09	-0.23	-0.19
Gas Flow Rate	l/hr	0.2	<0.1	0.1	-0.10	<0.1	<0.1	<0.1	<0.1	0.4	0.2	<0.1	0.2	0.2	<0.1	-0.1	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV189**

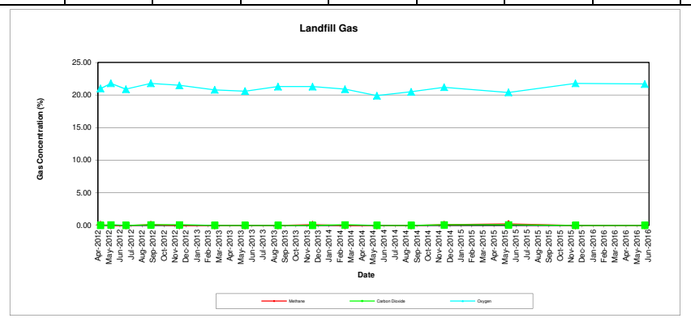
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	13:20	13:13	12:33	13:34	13:49	11:37	10:56	10:13	11:02	10:54	10:38	12:49	11:06	14:45	10:31	11:50
Methane	% vol	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	0.10	0.10	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1
Oxygen	% vol	21.00	21.80	21.00	21.80	21.50	20.8	20.6	21.2	21.3	20.9	19.9	20.5	21.2	20.4	21.7	21.7
Atmospheric Pressure	mbars	1012	1019	1007	1013	1004	991	1024	1011	1016	1026	1009	1017	1002	1004	1004	1003
Gas Pressure	mbars	-0.18	0.05	<0.01	-0.02	0.15	0.07	-0.09	<0.01	-0.02	<0.01	0.02	-0.14	0.06	0.05	<0.01	-0.11
Gas Flow Rate	l/hr	<0.2	<0.1	<0.1	-0.10	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	0.2	-0.1	-0.2	<0.1	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV190**

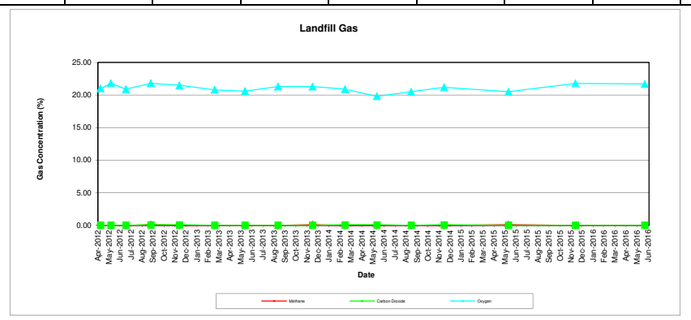
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	13:24	13:16	12:37	13:31	13:46	11:40	10:59	10:18	11:05	10:49	10:34	12:52	11:08	14:49	10:35	11:47
Methane	% vol	0.10	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	0.10	<0.1	0.10	0.10	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1
Oxygen	% vol	21.00	21.80	20.90	21.80	21.50	20.8	20.6	21.3	21.3	20.9	19.9	20.5	21.2	20.4	21.8	21.7
Atmospheric Pressure	mbars	1012	1019	1006	1013	1004	994	1025	1011	1017	1026	1009	1018	1003	1006	1004	1003
Gas Pressure	mbars	-0.17	<0.01	0.05	-0.05	0.05	0.06	-0.09	0.26	-0.28	0.15	-0.09	-0.14	-0.05	0.09	-0.04	-0.07
Gas Flow Rate	l/hr	<0.2	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.2	-0.2	-0.1	<0.1	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV191**

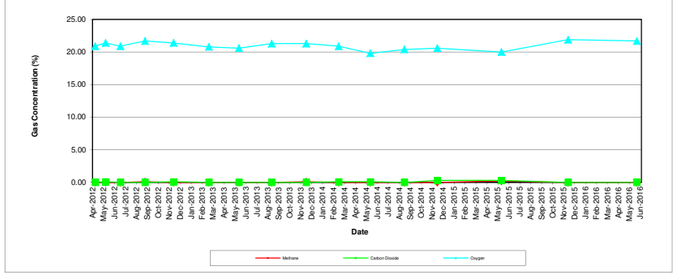
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	13:28	13:19	12:42	13:28	13:43	11:44	11:02	10:22	11:09	10:45	10:31	12:55	11:12	14:52	10:38	11:44
Methane	% vol	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	0.10	0.10	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1
Oxygen	% vol	21.00	21.80	20.90	21.80	21.50	20.8	20.6	21.3	21.3	20.9	19.8	20.5	21.2	20.5	21.8	21.7
Atmospheric Pressure	mbars	1013	1019	1006	1013	1004	994	1025	1011	1017	1026	1009	1018	1002	1005	1004	1003
Gas Pressure	mbars	-0.16	0.03	-0.08	-0.02	0.07	0.08	-0.1	0.22	-0.01	0.26	0.05	-0.16	0.1	0.05	-0.24	-0.07
Gas Flow Rate	l/hr	<0.2	<0.1	<0.1	<0.1	-0.10	<0.1	<0.1	<0.1	0.1	0.1	0.1	0.2	<0.1	-0.1	-0.2	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV192**

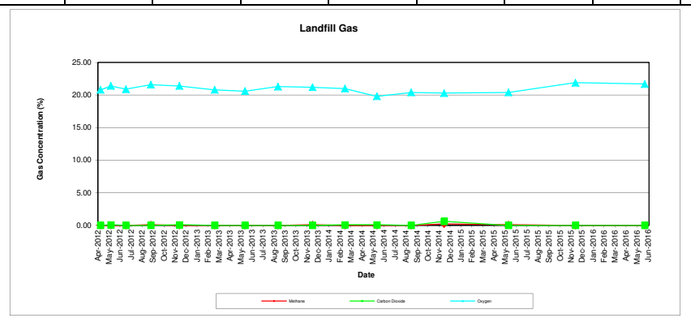
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	13:31	13:52	12:46	13:25	13:39	11:47	11:05	10:26	11:12	10:41	10:27	12:58	11:14	14:56	10:43	11:41
Methane	% vol	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	0.10	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.3	0.3	<0.1	<0.1
Oxygen	% vol	20.90	21.40	20.90	21.70	21.40	20.8	20.6	21.3	21.3	20.9	19.8	20.4	20.6	20	21.9	21.7
Atmospheric Pressure	mbars	1013	1018	1006	1012	1004	994	1025	1011	1017	1025	1008	1018	1002	1005	1004	1002
Gas Pressure	mbars	-0.17	0.09	0.01	-0.07	0.14	0.09	-0.1	0.22	<0.01	0.12	-0.02	-0.17	0.06	0.04	-0.12	-0.12
Gas Flow Rate	l/hr	<0.2	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	<0.1	0.1	0.2	-0.8	<0.1	-0.6	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV193**

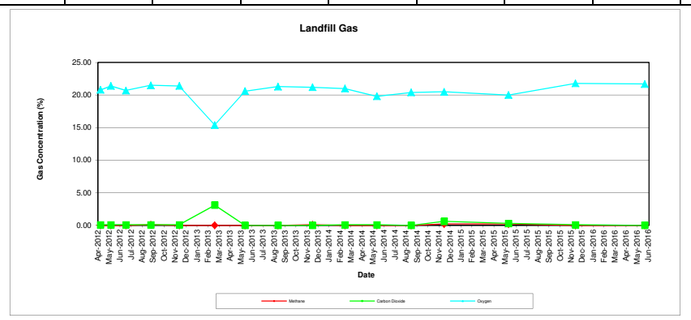
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	13:35	13:55	12:49	13:21	13:36	11:50	11:07	10:30	11:15	10:38	10:24	13:01	11:18	15:01	10:46	11:38
Methane	% vol	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	0.10	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.6	<0.1	<0.1	<0.1
Oxygen	% vol	20.80	21.40	20.90	21.60	21.40	20.8	20.6	21.3	21.2	21	19.8	20.4	20.3	20.4	21.9	21.7
Atmospheric Pressure	mbars	1013	1018	1006	1012	1003	993	1024	1010	1017	1025	1008	1017	1002	1005	1004	1002
Gas Pressure	mbars	-0.25	0.09	0.01	-0.02	0.02	0.15	-0.1	0.21	-0.12	0.12	-0.1	-0.19	0.12	0.07	-0.34	-0.12
Gas Flow Rate	l/hr	<0.2	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	-0.1	-0.2	0.2	-0.1	<0.1	<0.1	0.2
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV194**

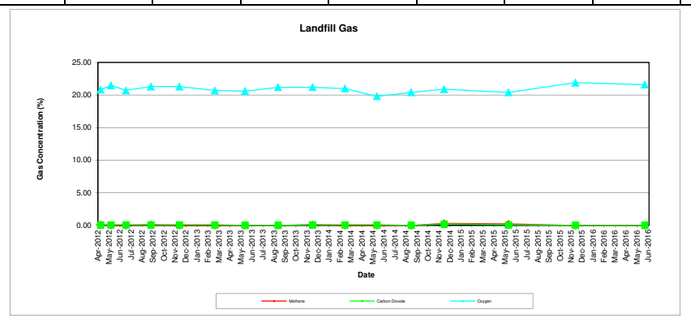
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	13:39	13:59	12:54	13:18	13:33	11:53	11:11	10:34	11:18	10:35	10:20	13:03	11:23	15:04	10:49	11:35
Methane	% vol	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	0.2	<0.1	<0.1
Carbon Dioxide	% vol	0.10	0.10	0.10	0.10	0.10	3.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.6	0.3	0.1	<0.1
Oxygen	% vol	20.80	21.40	20.70	21.50	21.40	15.4	20.6	21.3	21.2	21	19.8	20.4	20.5	20	21.8	21.7
Atmospheric Pressure	mbars	1012	1018	1005	1011	1003	993	1024	1010	1017	1025	1007	1017	1001	1005	1004	1001
Gas Pressure	mbars	-0.19	0.05	-0.02	-0.07	-0.10	<0.01	-0.08	0.23	-0.11	0.12	-0.05	-0.18	0.51	0.07	-0.21	-0.05
Gas Flow Rate	l/hr	<0.2	<0.1	-0.5	<0.1	<0.1	0.1	<0.1	<0.1	0.1	-0.1	-0.1	0.2	-0.3	<0.1	<0.1	-0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV195**

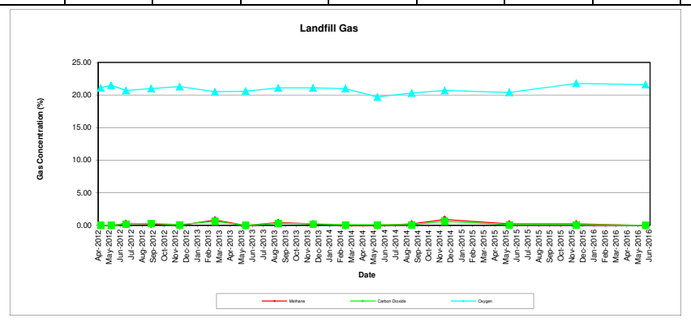
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	13:43	14:02	14:33	13:15	13:30	11:57	11:14	10:38	11:24	10:33	10:17	13:06	11:26	15:08	10:52	11:31
Methane	% vol	0.10	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.3	0.2	<0.1	<0.1
Carbon Dioxide	% vol	0.10	0.10	0.10	0.10	0.10	0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	0.2	0.1	<0.1	<0.1
Oxygen	% vol	20.80	21.50	20.70	21.30	21.30	20.7	20.6	21.2	21.2	21	19.8	20.4	20.9	20.4	21.9	21.6
Atmospheric Pressure	mbars	1012	1017	1004	1011	1002	992	1023	1009	1016	1025	1007	1016	1001	1004	1003	1001
Gas Pressure	mbars	-0.20	0.07	-0.25	-0.02	0.09	0.08	-0.13	0.17	-0.11	0.12	0.24	-0.18	0.05	0.07	-0.31	-0.14
Gas Flow Rate	l/hr	<0.2	<0.1	<0.1	-0.10	0.10	<0.1	<0.1	<0.1	0.2	-0.1	-0.1	0.2	<0.1	<0.1	0.4	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV196**

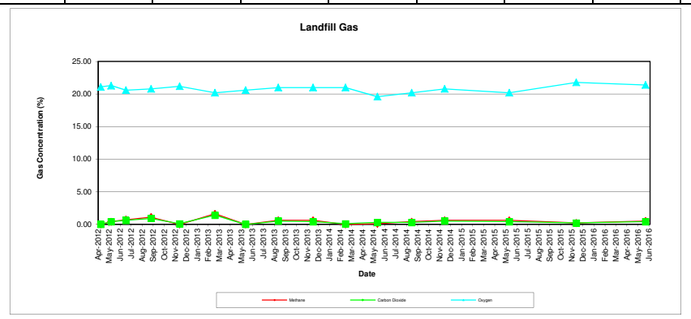
Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	13:46	14:05	14:36	13:12	13:26	12:00	11:17	10:41	11:28	10:30	10:12	13:09	11:29	15:12	10:56	11:28
Methane	% vol	<0.1	<0.1	0.30	0.20	<0.1	0.8	<0.1	0.4	0.2	<0.1	<0.1	0.2	0.9	0.2	0.2	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	0.20	0.30	0.10	0.6	<0.1	0.3	0.2	0.1	0.1	0.1	0.6	0.1	0.1	<0.1
Oxygen	% vol	21.10	21.50	20.70	21.00	21.30	20.5	20.6	21.1	21.1	21	19.7	20.3	20.7	20.4	21.8	21.6
Atmospheric Pressure	mbars	1011	1017	1004	1010	1002	992	1023	1009	1016	1025	1006	1016	1000	1004	1002	1001
Gas Pressure	mbars	-0.26	-0.05	-0.06	0.05	0.07	0.02	-0.13	0.19	-0.06	0.12	0.26	-0.2	0.15	0.03	0.04	-0.22
Gas Flow Rate	l/hr	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	-0.1	<0.1	0.2	-0.1	<0.1	-0.1	<0.1
Comments																	



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV197**

Determinand	**Units**																
Date monitored	-	03/05/12	01/06/12	12/07/12	19/09/12	07/12/12	15/03/13	07/06/13	06/09/13	10/12/13	10/03/14	06/06/14	09/09/14	09/12/14	05/06/15	08/12/15	16/06/16
Time of measurement	-	13:50	14:09	14:40	13:09	13:23	12:04	11:20	10:45	11:31	10:28	10:09	13:11	11:32	15:15	10:59	11:25
Methane	% vol	<0.1	0.40	0.70	1.10	<0.1	1.6	<0.1	0.6	0.6	<0.1	0.1	0.4	0.6	0.6	0.2	0.5
Carbon Dioxide	% vol	<0.1	0.40	0.60	0.90	0.10	1.4	<0.1	0.5	0.4	0.1	0.3	0.3	0.5	0.4	0.2	0.4
Oxygen	% vol	21.10	21.30	20.60	20.80	21.20	20.2	20.6	21	21	21	19.6	20.2	20.8	20.2	21.8	21.4
Atmospheric Pressure	mbars	1011	1017	1004	1010	1001	991	1023	1008	1015	1025	1006	1016	999	1003	1002	1001
Gas Pressure	mbars	-0.22	-0.09	-0.07	0.03	-0.05	0.03	-0.09	0.05	-0.09	0.12	0.15	-0.23	-0.06	0.13	0.02	-0.15
Gas Flow Rate	l/hr	<0.2	<0.1	<0.1	-0.10	0.10	<0.1	<0.1	<0.1	0.3	-0.1	<0.1	0.3	0.2	<0.1	<0.1	-0.1
Comments																	



APPENDIX C:

C11 – Ness Farm Phase 4 Passive Gas Vent Monitoring

Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Methane															
	15/04/2013	10/05/2013	10/06/13	09/09/13	12/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	10/12/15	21/06/16		Average	Maximum
GV198	<0.1	<0.1	0.2	0.1	0.1	<0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1		0.14	0.20
GV199	0.4	<0.1	0.3	0.2	0.1	<0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1		0.22	0.40
GV200	0.2	0.2	0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	0.3	<0.1	<0.1		0.17	0.30
GV201	<0.1	0.1	0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1		0.12	0.20
GV202	0.5	<0.1	0.1	<0.1	0.2	<0.1	0.5	0.1	<0.1	0.6	0.1	<0.1		0.30	0.60
GV203	0.5	3.1	0.1	0.7	0.1	<0.1	0.1	<0.1	<0.1	0.5	<0.1	<0.1		0.73	3.10
GV204	<0.1	<0.1	0.1	0.5	0.4	<0.1	0.7	0.5	<0.1	0.7	0.3	<0.1		0.46	0.70
GV205	<0.1	<0.1	0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1		0.12	0.20
GV206	<0.1	<0.1	0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1		0.13	0.20
GV207	0.2	<0.1	0.1	0.3	0.1	<0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1		0.17	0.30
GV208	<0.1	<0.1	0.2	0.2	0.1	<0.1	0.2	<0.1	<0.1	0.3	<0.1	<0.1		0.20	0.30
GV209	<0.1	<0.1	0.8	2.1	0.1	<0.1	0.4	0.3	<0.1	1.2	0.6	0.6		0.76	2.10
GV210	<0.1	<0.1	0.4	<0.1	0.1	<0.1	0.1	0.1	<0.1	0.3	<0.1	<0.1		0.20	0.40
GV211	<0.1	<0.1	0.1	<0.1	0.2	0.1	0.2	0.3	<0.1	0.3	0.1	<0.1		0.19	0.30
GV212	<0.1	<0.1	0.1	0.1	<0.1	0.1	0.2	0.7	<0.1	0.3	<0.1	<0.1		0.25	0.70
GV213	<0.1	<0.1	0.1	<0.1	0.3	0.1	0.3	0.4	<0.1	0.4	<0.1	<0.1		0.27	0.40
GV214	<0.1	<0.1	0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	0.3	<0.1	<0.1		0.14	0.30
GV215	<0.1	<0.1	0.4	0.1	0.1	0.1	0.1	<0.1	0.3	0.4	<0.1	<0.1		0.21	0.40
GV216	0.7	<0.1	0.1	<0.1	0.1	0.2	<0.1	<0.1	0.1	0.7	0.2	<0.1		0.30	0.70
GV217	<0.1	1	0.6	<0.1	0.1	0.1	0.2	0.7	0.2	1	<0.1	<0.1		0.49	1.00
GV218	0.2	<0.1	0.1	0.3	0.5	0.1	0.7	0.5	0.7	0.7	0.5	0.4		0.43	0.70
GV219	0.4	<0.1	1.7	<0.1	0.4	0.4	0.4	1	0.7	2.8	<0.1	0.4		0.91	2.80
GV220	<0.1	<0.1	0.7	0.2	0.4	0.1	0.7	1.1	0.1	1.2	<0.1	<0.1		0.56	1.20
GV221	<0.1	<0.1	0.1	0.1	0.2	0.1	0.3	0.4	<0.1	0.9	<0.1	<0.1		0.30	0.90
GV222	<0.1	1	2.5	0.4	0.2	0.2	0.6	1.5	<0.1	2.5	<0.1	<0.1		1.11	2.50
GV223	0.4	<0.1	0.5	0.3	1.1	0.1	0.2	1.2	0.1	0.6	<0.1	<0.1		0.50	1.20
GV224	<0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1		0.13	0.20
GV225	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1		0.13	0.20
GV226	<0.1	0.2	0.1	0.1	0.3	0.1	0.3	0.8	<0.1	0.4	<0.1	<0.1		0.29	0.80
GV227	<0.1	0.3	0.1	<0.1	0.2	0.1	0.1	0.6	<0.1	0.3	<0.1	<0.1		0.24	0.60
GV228	<0.1	<0.1	0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	0.2	<0.1	<0.1		0.12	0.20
GV229	<0.1	<0.1	0.6	0.4	<0.1	0.1	0.4	2.7	0.1	0.7	<0.1	<0.1		0.71	2.70
GV230	0.4	0.3	0.1	0.6	<0.1	0.2	0.4	0.6	0.1	0.3	<0.1	<0.1		0.33	0.60
GV231	<0.1	<0.1	0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1		0.13	0.20
GV232	<0.1	<0.1	0.1	0.6	<0.1	0.1	0.1	0.7	<0.1	0.4	<0.1	0.1		0.30	0.70
GV233	<0.1	<0.1	0.5	2.9	0.8	0.1	0.7	4.2	<0.1	1.4	2.4	2.9		1.77	4.20
GV234	<0.1	<0.1	0.2	0.2	0.1	0.1	0.4	0.7	<0.1	0.7	<0.1	<0.1		0.34	0.70
GV235	<0.1	<0.1	7.4	9.4	10	0.1	4.5	12.1	<0.1	3.6	2.5	<0.1		6.20	12.10
GV236	<0.1	<0.1	0.4	0.3	0.2	0.1	0.2	0.3	<0.1	0.3	0.2	<0.1		0.25	0.40
GV237	0.2	<0.1	0.7	0.4	0.5	0.1	0.3	0.8	<0.1	0.6	0.2	<0.1		0.42	0.80
GV238	0.2	<0.1	0.1	0.4	0.3	0.1	0.3	1	<0.1	0.6	<0.1	0.5		0.39	1.00
GV239	<0.1	<0.1	0.1	<0.1	0.2	0.1	0.1	0.1	<0.1	0.2	<0.1	<0.1		0.13	0.20
GV240	<0.1	<0.1	0.1	<0.1	0.1	0.1	0.1	0.3	<0.1	0.2	<0.1	<0.1		0.15	0.30
GV241	<0.1	<0.1	0.1	0.1	0.2	0.1	0.1	0.5	<0.1	0.3	<0.1	<0.1		0.20	0.50
GV242	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1		0.13	0.20
GV243	<0.1	<0.1	0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1		0.13	0.20
GV244	<0.1	<0.1	0.2	<0.1	<0.1	0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1		0.15	0.20
GV245	<0.1	<0.1	1.1	<0.1	0.2	0.1	0.5	<0.1	<0.1	0.9	<0.1	<0.1		0.56	1.10
GV246	<0.1	<0.1	0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1		0.13	0.20
GV247	<0.1	<0.1	1.7	0.4	0.2	0.1	1.2	0.6	<0.1	1.1	<0.1	<0.1		0.76	1.70
GV248	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1		0.13	0.20
GV249	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1		0.13	0.20
GV250	0.7	<0.1	1.7	4.7	16.3	0.1	0.1	18.3	<0.1	9.7	18.7	<0.1		7.81	18.70
GV251	0.2	<0.1	0.1	0.1	0.3	0.1	0.1	1.2	<0.1	0.5	0.3	0.2		0.31	1.20
GV252	<0.1	<0.1	2.1	0.2	1.3	0.1	1.3	1.2	<0.1	0.2	1.8	<0.1		1.03	2.10
GV253	<0.1	0.2	0.1	0.1	0.7	0.1	0.1	0.7	<0.1	0.4	0.3	<0.1		0.30	0.70
GV254	<0.1	<0.1	0.2	0.1	0.1	<0.1	0.1	0.2	<0.1	0.3	<0.1	<0.1		0.17	0.30
GV255	<0.1	<0.1	0.1	1.1	0.1	<0.1	0.1	0.3	<0.1	0.2	<0.1	<0.1		0.32	1.10
GV256	<0.1	<0.1	0.4	0.6	0.1	<0.1	0.3	0.1	<0.1	0.2	<0.1	<0.1		0.28	0.60
GV257	<0.1	<0.1	0.2	0.1	0.1	<0.1	0.2	0.2	<0.1	0.2	<0.1	<0.1		0.17	0.20
GV258	<0.1	<0.1	0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1		0.13	0.20
GV259	0.2	<0.1	0.4	0.1	0.1	<0.1	0.3	0.1	<0.1	0.3	<0.1	<0.1		0.21	0.40
GV260	<0.1	<0.1	0.1	0.4	0.1	<0.1	0.3	0.3	<0.1	<0.1	0.9	<0.1		0.35	0.90
GV261	0.2	0.9	1.3	2.3	0.1	0.1	1	0.6	0.2	<0.1	1	0.2		0.72	2.30
GV262	0.2	<0.1	1.3	1.4	0.1	<0.1	1.1	0.9	0.1	0.5	0.2	0.3		0.61	1.40
GV263	0.8	1.1	0.1	1.8	0.1	0.1	1.5	1.2	0.4	0.3	1	0.1		0.71	1.80
GV264	<0.1	<0.1	0.1	0.2	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1		0.13	0.20

0 - 10%	
10 - 20%	
20 - 30%	
30 - 40%	
40 - 60%	

Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Carbon Dioxide															
	15/04/2013	10/05/2013	10/06/13	09/09/2013	12/12/2013	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	10/12/15	21/06/16		Average	Maximum
GV198	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	0.00
GV199	0.4	<0.1	0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		0.23	0.40
GV200	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1		0.10	0.10
GV201	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1		0.10	0.10
GV202	0.3	<0.1	<0.1	<0.1	0.3	0.1	0.2	0.1	<0.1	0.2	0.1	0.1		0.18	0.30
GV203	0.1	1.7	<0.1	0.5	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1		0.50	1.70
GV204	<0.1	<0.1	<0.1	0.6	0.4	<0.1	0.8	0.6	<0.1	0.4	0.2	0.1		0.44	0.80
GV205	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	0.1	<0.1	0.1		0.12	0.20
GV206	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	0.00
GV207	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		0.20	0.20
GV208	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1		0.10	0.10
GV209	<0.1	<0.1	0.4	0.3	<0.1	<0.1	0.2	0.2	<0.1	0.5	0.4	0.1		0.30	0.50
GV210	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1		0.10	0.10
GV211	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.2	<0.1	0.1	<0.1	<0.1		0.13	0.20
GV212	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.3	<0.1	0.1	<0.1	0.1		0.15	0.30
GV213	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.1	0.3	0.1	0.1	<0.1	0.1		0.15	0.30
GV214	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1		0.10	0.10
GV215	0.1	<0.1	1	<0.1	0.5	0.1	<0.1	<0.1	0.7	0.2	0.1	0.5		0.40	1.00
GV216	1.7	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	0.7	0.6	0.1		0.55	1.70
GV217	<0.1	6.2	0.5	<0.1	0.1	<0.1	0.1	0.7	0.1	0.8	0.1	0.2		0.98	6.20
GV218	0.1	<0.1	<0.1	<0.1	1.3	0.1	0.5	0.5	0.6	0.4	1.1	0.1		0.52	1.30
GV219	0.3	<0.1	1.1	<0.1	0.6	0.4	0.3	0.2	0.2	1.7	0.4	0.5		0.57	1.70
GV220	<0.1	<0.1	0.4	0.1	0.5	<0.1	0.5	0.7	0.1	0.7	<0.1	0.2		0.40	0.70
GV221	<0.1	<0.1	<0.1	<0.1	0.3	0.1	0.2	0.3	<0.1	0.5	<0.1	0.1		0.25	0.50
GV222	<0.1	0.6	1.2	0.3	0.1	0.4	0.6	0.9	<0.1	1.2	0.3	0.1		0.57	1.20
GV223	<0.1	<0.1	0.1	0.1	0.6	0.1	0.1	0.7	<0.1	0.3	0.2	0.1		0.26	0.70
GV224	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1		0.15	0.20
GV225	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1		0.10	0.10
GV226	<0.1	0.1	<0.1	0.1	0.2	<0.1	0.1	0.5	<0.1	0.2	0.1	0.1		0.18	0.50
GV227	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.4	<0.1	0.1	0.1	0.1		0.15	0.40
GV228	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1		0.10	0.10
GV229	<0.1	0.1	0.2	0.2	<0.1	<0.1	0.1	0.9	0.1	0.3	0.1	0.1		0.23	0.90
GV230	0.1	0.1	<0.1	0.6	<0.1	0.1	0.2	0.4	0.1	0.1	<0.1	0.1		0.20	0.60
GV231	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	0.00
GV232	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	0.4	<0.1	0.2	0.1	<0.1		0.28	0.40
GV233	<0.1	0.1	0.2	1.5	0.6	<0.1	0.3	1.3	<0.1	0.6	1.8	0.7		0.79	1.80
GV234	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	0.4	<0.1	0.2	0.1	<0.1		0.17	0.40
GV235	<0.1	<0.1	3.4	4.3	5.6	<0.1	0.8	5.2	<0.1	1.8	2	<0.1		3.30	5.60
GV236	<0.1	<0.1	0.2	0.1	0.2	<0.1	<0.1	0.2	<0.1	0.1	0.3	<0.1		0.18	0.30
GV237	0.1	<0.1	0.3	0.2	0.3	<0.1	0.1	0.4	<0.1	0.2	0.3	<0.1		0.24	0.40
GV238	<0.1	<0.1	<0.1	0.2	0.2	<0.1	0.2	0.6	0.1	0.2	0.1	0.3		0.24	0.60
GV239	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1		0.10	0.10
GV240	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1		0.10	0.10
GV241	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	0.3	0.1	0.2	0.1	0.1		0.14	0.30
GV242	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1		0.10	0.10
GV243	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1		0.10	0.10
GV244	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1		0.10	0.10
GV245	<0.1	<0.1	0.6	<0.1	0.1	<0.1	0.2	0.1	<0.1	0.3	0.1	<0.1		0.23	0.60
GV246	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		0.10	0.10
GV247	0.1	<0.1	1.1	0.3	0.1	<0.1	0.3	0.4	<0.1	0.5	0.1	<0.1		0.36	1.10
GV248	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1		0.10	0.10
GV249	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1		0.10	0.10
GV250	0.5	<0.1	0.7	1.2	7.5	<0.1	<0.1	6.9	<0.1	4.2	10.7	<0.1		4.53	10.70
GV251	0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	0.7	<0.1	0.2	0.3	0.1		0.27	0.70
GV252	<0.1	<0.1	1.2	0.1	0.9	<0.1	0.7	0.9	<0.1	<0.1	1.6	<0.1		0.90	1.60
GV253	<0.1	<0.1	<0.1	0.1	0.4	<0.1	<0.1	0.6	0.1	0.2	0.4	<0.1		0.30	0.60
GV254	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1		0.10	0.10
GV255	<0.1	<0.1	<0.1	0.5	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.1		0.27	0.50
GV256	<0.1	<0.1	0.1	0.4	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.1		0.15	0.40
GV257	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	0.2	<0.1	<0.1	<0.1	0.1		0.13	0.20
GV258	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1		0.10	0.10
GV259	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	0.1		0.12	0.20
GV260	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1	0.2	0.1	<0.1	1	0.2		0.26	1.00
GV261	<0.1	0.6	0.8	1.4	<0.1	0.1	0.5	0.5	0.2	0.1	1.3	0.6		0.61	1.40
GV262	<0.1	<0.1	0.8	0.9	<0.1	<0.1	0.6	0.8	0.1	0.4	0.4	0.6		0.58	0.90
GV263	0.5	0.8	<0.1	1.4	<0.1	0.1	0.6	1	0.4	0.3	1	0.5		0.66	1.40
GV264	<0.1	<0.1	0.3	0.2	<0.1	0.1	<0.1	0.1	0.1	0.1	0.2	0.3		0.18	0.30

0 - 10%	
10 - 20%	
20 - 30%	
30 - 40%	
40 - 60%	

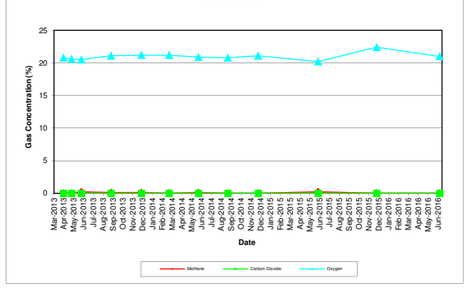
Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Flow Rate																
	15/04/2013	10/05/2013	10/06/13	09/09/2013	12/12/2013	07/03/2014	09/06/2014	05/09/2014	08/12/2014	12/06/2015	10/12/2015	21/06/2016		Average	Maximum	Minimum
GV198	-0.4	<0.1	-0.2	<0.1	-0.5	-0.3	0.1	<0.1	<0.1	<0.1	-0.1	0.1		-0.19	0.10	-0.50
GV199	-0.4	<0.1	0.1	<0.1	<0.1	0.5	<0.1	-0.1	<0.1	-0.2	<0.1	0.1		0.00	0.50	-0.40
GV200	-0.1	<0.1	-0.1	<0.1	0.1	0.2	0.1	-0.1	-0.2	<0.1	-0.4	-0.2		-0.08	0.20	-0.40
GV201	-0.4	-0.1	<0.1	0.1	<0.1	-0.2	0.2	-0.1	-0.2	<0.1	-0.1	-0.2		-0.11	0.20	-0.40
GV202	-0.2	<0.1	<0.1	<0.1	<0.1	0.7	0.1	-0.1	-0.3	-0.1	<0.1	-0.2		-0.01	0.70	-0.30
GV203	-0.3	-0.2	-0.3	<0.1	<0.1	-0.4	0.1	-0.1	-0.1	<0.1	0.2	<0.1		-0.14	0.20	-0.40
GV204	-0.1	-0.3	<0.1	<0.1	<0.1	0.3	0.2	-0.1	-0.2	<0.1	0.1	-0.2		-0.04	0.30	-0.30
GV205	0.1	-0.2	<0.1	<0.1	<0.1	<0.1	0.1	-0.1	-0.1	<0.1	0.1	<0.1		-0.02	0.10	-0.20
GV206	-0.1	-0.2	<0.1	0.1	<0.1	0.8	0.1	-0.1	-0.1	<0.1	-0.1	0.2		0.07	0.80	-0.20
GV207	<0.1	0.2	<0.1	<0.1	<0.1	-0.6	-0.2	-0.1	<0.1	<0.1	0.1	<0.1		-0.12	0.20	-0.60
GV208	0.1	0.2	<0.1	0.1	-0.1	-0.3	-0.1	-0.1	<0.1	<0.1	0.1	<0.1		-0.01	0.20	-0.30
GV209	0.2	0.2	-0.1	0.1	<0.1	-0.8	-0.1	-0.1	<0.1	<0.1	<0.1	-0.2		-0.10	0.20	-0.80
GV210	0.4	-0.5	<0.1	0.1	-0.1	0.1	<0.1	-0.2	<0.1	<0.1	<0.1	-0.2		-0.06	0.40	-0.50
GV211	-0.3	<0.1	<0.1	-0.1	0.1	-0.1	<0.1	-0.1	-0.1	-0.1	-0.1	<0.1		-0.10	0.10	-0.30
GV212	-0.1	-0.1	<0.1	<0.1	0.1	<0.1	<0.1	-0.1	-0.2	<0.1	0.1	-0.1		-0.06	0.10	-0.20
GV213	0.3	-0.2	<0.1	<0.1	-0.4	-0.2	<0.1	-0.1	-0.1	<0.1	<0.1	-0.1		-0.11	0.30	-0.40
GV214	-0.2	0.1	<0.1	<0.1	<0.1	-0.4	0.1	-0.2	<0.1	-0.1	0.4	<0.1		-0.04	0.40	-0.40
GV215	-0.2	0.7	<0.1	<0.1	-1	0.2	<0.1	-0.1	<0.1	-0.1	0.3	0.5		0.04	0.70	-1.00
GV216	-0.2	0.1	<0.1	<0.1	-1.1	-0.2	<0.1	-0.1	<0.1	<0.1	0.2	0.4		-0.13	0.40	-1.10
GV217	<0.1	<0.1	-0.1	<0.1	0.1	-0.3	<0.1	-0.1	<0.1	-0.1	0.3	0.6		0.06	0.60	-0.30
GV218	0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	-0.1	-0.1	-0.1	0.3	0.5		0.11	0.50	-0.10
GV219	<0.1	<0.1	<0.1	<0.1	0.2	-0.1	<0.1	-0.1	<0.1	-0.1	0.3	0.5		0.12	0.50	-0.10
GV220	0.2	-0.5	-0.1	<0.1	1.6	-0.1	<0.1	-0.1	<0.1	-0.1	0.3	-0.2		0.11	1.60	-0.50
GV221	<0.1	<0.1	<0.1	<0.1	1.3	-0.3	<0.1	-0.1	<0.1	-0.1	0.3	0.1		0.20	1.30	-0.30
GV222	0.2	0.1	<0.1	<0.1	0.2	-0.4	-0.1	-0.1	<0.1	-0.1	0.3	0.2		0.03	0.30	-0.40
GV223	0.4	<0.1	<0.1	<0.1	0.4	0.1	<0.1	<0.1	0.1	-0.1	0.3	0.1		0.19	0.40	-0.10
GV224	-0.2	0.1	0.1	<0.1	-0.1	-0.4	-0.2	-0.1	-0.1	<0.1	0.3	0.4		-0.02	0.40	-0.40
GV225	-0.4	0.2	<0.1	<0.1	<0.1	-0.3	<0.1	-0.1	-0.1	-0.1	0.3	0.4		-0.01	0.40	-0.40
GV226	-0.2	0.2	0.1	<0.1	0.1	<0.1	<0.1	-0.1	-0.1	-0.1	0.3	0.4		0.07	0.40	-0.20
GV227	-0.2	0.2	-0.1	<0.1	<0.1	-0.2	<0.1	-0.1	<0.1	-0.2	0.4	0.2		0.00	0.40	-0.20
GV228	-0.2	0.7	<0.1	<0.1	0.1	-0.1	<0.1	-0.1	<0.1	-0.1	0.6	0.4		0.16	0.70	-0.20
GV229	-0.1	0.1	<0.1	-0.1	<0.1	0.7	<0.1	-0.1	-0.1	-0.2	0.3	0.3		0.09	0.70	-0.20
GV230	<0.1	-0.3	-0.2	<0.1	-0.1	-0.1	-0.1	-0.1	<0.1	-0.2	0.3	0.3		-0.06	0.30	-0.30
GV231	-0.1	-0.1	<0.1	<0.1	<0.1	0.4	<0.1	-0.1	-0.2	<0.1	0.4	<0.1		0.05	0.40	-0.20
GV232	-0.5	0.2	-0.1	<0.1	<0.1	-0.2	<0.1	-0.1	-0.1	-0.1	0.3	-0.1		-0.08	0.30	-0.50
GV233	-0.3	0.1	0.1	<0.1	<0.1	0.3	<0.1	-0.1	-0.1	<0.1	0.3	<0.1		0.04	0.30	-0.30
GV234	-0.3	0.2	-0.1	<0.1	-0.6	-0.6	0.2	-0.1	-0.1	<0.1	0.2	-0.2		-0.14	0.20	-0.60
GV235	-0.3	-0.4	<0.1	<0.1	1	-0.2	0.1	-0.1	<0.1	<0.1	0.4	0.2		0.09	1.00	-0.40
GV236	-0.2	<0.1	-0.2	<0.1	-0.1	0.2	0.2	-0.1	-0.1	<0.1	0.4	-0.3		-0.02	0.40	-0.30
GV237	-0.2	-0.4	<0.1	<0.1	0.7	-0.5	<0.1	-0.1	-0.1	<0.1	0.4	-0.5		-0.09	0.70	-0.50
GV238	-0.3	0.2	-0.1	<0.1	<0.1	<0.1	-0.2	-0.1	-0.1	<0.1	0.4	-0.1		-0.04	0.40	-0.30
GV239	-0.1	0.1	-0.1	<0.1	1.1	<0.1	-0.1	-0.1	-0.2	<0.1	0.3	<0.1		0.11	1.10	-0.20
GV240	-0.2	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	-0.1	-0.1	<0.1	0.2	-0.3		-0.10	0.20	-0.30
GV241	-0.1	<0.1	<0.1	<0.1	0.1	0.7	<0.1	-0.1	-0.2	-0.1	0.4	-0.2		0.06	0.70	-0.20
GV242	-0.3	<0.1	0.3	<0.1	0.3	0.5	<0.1	-0.1	-0.4	<0.1	0.3	-0.2		0.05	0.50	-0.40
GV243	-0.3	<0.1	0.3	<0.1	0.2	<0.1	<0.1	-0.1	-0.1	<0.1	0.3	0.1		0.06	0.30	-0.30
GV244	-0.2	-0.1	0.2	<0.1	0.1	0.1	<0.1	-0.1	-0.1	<0.1	0.2	0.1		0.02	0.20	-0.20
GV245	<0.1	-0.1	0.1	<0.1	0.4	1	<0.1	-0.1	-0.1	<0.1	0.2	0.1		0.19	1.00	-0.10
GV246	-0.4	-0.5	<0.1	<0.1	0.2	<0.1	<0.1	-0.1	-0.1	<0.1	0.2	<0.1		-0.12	0.20	-0.50
GV247	-0.2	<0.1	<0.1	-0.2	0.3	<0.1	<0.1	-0.1	<0.1	<0.1	0.3	<0.1		0.02	0.30	-0.20
GV248	-0.2	<0.1	-0.2	<0.1	-0.4	-0.5	<0.1	-0.1	-0.2	<0.1	0.2	<0.1		-0.20	0.20	-0.50
GV249	-0.3	-0.1	0.1	<0.1	0.1	0.2	<0.1	-0.1	-0.1	<0.1	0.3	0.1		0.02	0.30	-0.30
GV250	-0.1	-0.1	0.5	<0.1	0.1	<0.1	0.1	-0.1	-0.3	<0.1	0.3	<0.1		0.05	0.50	-0.30
GV251	-0.6	0.7	<0.1	<0.1	0.1	0.3	<0.1	-0.1	<0.1	<0.1	0.3	<0.1		0.12	0.70	-0.60
GV252	-0.1	<0.1	0.6	0.1	-0.3	-0.2	<0.1	-0.1	<0.1	<0.1	0.2	0.1		0.04	0.60	-0.30
GV253	-0.2	<0.1	<0.1	0.1	-1.1	0.1	-0.1	-0.1	<0.1	-0.1	0.3	-0.1		-0.13	0.30	-1.10
GV254	<0.1	0.1	<0.1	0.1	<0.1	0.8	<0.1	-0.1	<0.1	<0.1	0.2	-0.1		0.17	0.80	-0.10
GV255	-0.2	0.2	-0.1	0.1	-0.1	0.2	<0.1	-0.1	-0.1	<0.1	0.3	<0.1		0.02	0.30	-0.20
GV256	-0.4	0.2	0.5	<0.1	0.1	<0.1	<0.1	<0.1	-0.2	<0.1	0.4	-0.2		0.06	0.50	-0.40
GV257	-0.7	0.2	-0.1	0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	0.3	-0.1		-0.06	0.30	-0.70
GV258	-0.4	0.3	0.2	<0.1	<0.1	-0.2	-0.2	-0.1	-0.1	<0.1	0.3	-0.1		-0.03	0.30	-0.40
GV259	-0.4	0.2	0.1	-0.1	<0.1	0.6	<0.1	-0.1	<0.1	<0.1	0.4	-0.1		0.08	0.60	-0.40
GV260	-0.5	0.1	-0.1	0.1	<0.1	0.8	<0.1	<0.1	0.1	-0.1	0.4	-0.1		0.08	0.80	-0.50
GV261	-0.2	0.1	0.3	<0.1	<0.1	0.1	-0.1	<0.1	0.1	-0.1	0.5	-0.1		0.07	0.50	-0.20
GV262	-0.1	0.3	0.1	0.2	<0.1	-0.2	-0.2	<0.1	0.1	<0.1	0.4	-0.1		0.06	0.40	-0.20
GV263	-0.2	0.1	0.6	<0.1	0.1	-0.5	<0.1	<0.1	<0.1	<0.1	0.3	-0.3		0.01	0.60	-0.50
GV264	-0.2	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	-0.2	<0.1	0.2	-0.1		-0.08	0.20	-0.20

Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV198

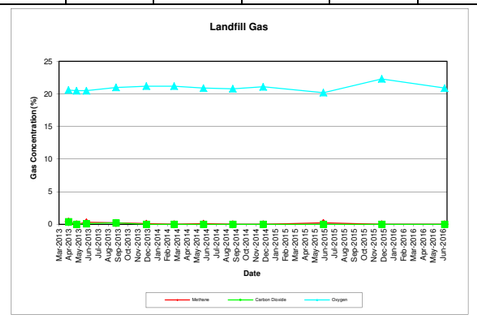
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	12/12/13	07/03/14	06/06/14	05/09/14	08/12/14	12/06/2015	10/12/15	21/06/16
Time of measurement	-	15:44	12:54	14:28	12:52	11:35	15:10	15:17	14:49	14:34	14:18	11:25	15:09
Methane	% vol	<0.1	<0.1	0.2	0.1	0.1	<0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Oxygen	% vol	20.8	20.6	20.5	21.1	21.2	21.2	20.9	20.8	21.1	20.2	22.4	21
Atmospheric Pressure	mbars	1000	994	1009	1011	1007	1009	1006	1012	1011	1007	1004	1006
Gas Pressure	mbars	-0.25	-0.01	-0.15	-0.01	-0.4	-0.09	-0.5	0.01	0.13	-0.08	-0.23	<0.01
Gas Flow Rate	l/hr	-0.4	<0.1	-0.2	<0.1	-0.5	-0.3	0.1	<0.1	<0.1	<0.1	-0.1	0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV199**

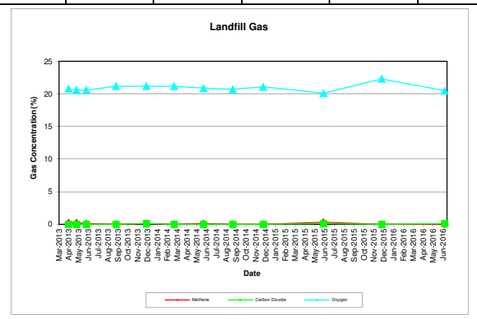
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	12/12/13	07/03/14	06/06/14	05/09/14	08/12/14	12/06/15	10/12/15	21/06/16
Time of measurement	-	15:47	12:58	14:33	12:49	11:31	15:07	15:13	14:46	14:31	14:14	11;29	15:06
Methane	% vol	0.4	<0.1	0.3	0.2	0.1	<0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	0.4	<0.1	0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Oxygen	% vol	20.6	20.5	20.5	21	21.2	21.2	20.9	20.8	21.1	20.2	22.3	20.9
Atmospheric Pressure	mbars	1000	994	1009	1011	1007	1010	1006	1012	1010	1007	1004	1006
Gas Pressure	mbars	-0.16	-0.04	-0.12	-0.02	-0.05	-0.1	-0.5	-0.03	0.12	-0.06	-0.13	<0.01
Gas Flow Rate	l/hr	-0.4	<0.1	0.1	<0.1	<0.1	0.5	<0.1	-0.1	<0.1	-0.2	<0.1	0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV200**

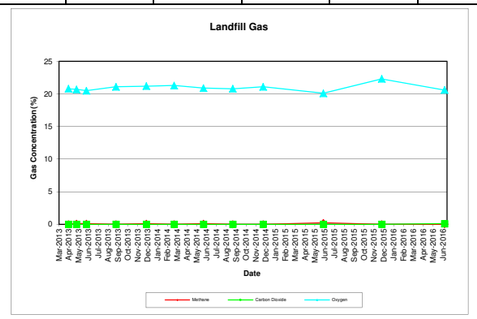
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	12/12/13	07/03/14	06/06/14	05/09/14	08/12/14	12/06/15	10/12/15	21/06/16
Time of measurement	-	15:51	12:50	14:25	12:55	11:38	15:13	15:21	14:52	14:37	14:22	11:20	15:05
Methane	% vol	0.2	0.2	0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	0.3	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1
Oxygen	% vol	20.8	20.6	20.6	21.2	21.2	21.2	20.9	20.7	21.1	20.1	22.3	20.5
Atmospheric Pressure	mbars	1000	994	1009	1011	1007	1010	1006	1012	1011	1007	1004	1005
Gas Pressure	mbars	-0.07	<0.01	-0.16	0.02	-0.3	-0.5	-0.49	-0.08	0.1	-0.11	<0.01	0.1
Gas Flow Rate	l/hr	-0.1	<0.1	-0.1	<0.1	0.1	0.2	0.1	-0.1	-0.2	<0.1	-0.4	-0.2
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV201**

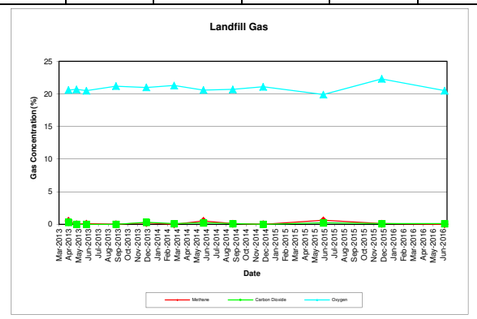
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	12/12/13	07/03/14	06/06/14	05/09/14	08/12/14	12/06/15	10/12/15	21/06/16
Time of measurement	-	15:54	12:47	14:21	12:58	11:43	15:16	15:25	14:55	14:40	14:25	11:17	15:08
Methane	% vol	<0.1	0.1	0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
Oxygen	% vol	20.8	20.7	20.5	21.1	21.2	21.3	20.9	20.8	21.1	20.1	22.3	20.6
Atmospheric Pressure	mbars	1000	994	1009	1011	1007	1010	1006	1012	1011	1007	1004	1005
Gas Pressure	mbars	-0.25	-0.11	-0.17	0.05	-0.15	-0.31	-0.48	0.01	-0.01	-0.09	-0.41	0.03
Gas Flow Rate	l/hr	-0.4	-0.1	<0.1	0.1	<0.1	-0.2	0.2	-0.1	-0.2	<0.1	-0.1	-0.2
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV202

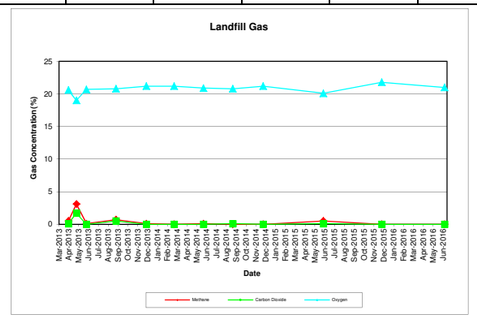
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	12/12/13	07/03/14	06/06/14	05/09/14	08/12/14	12/06/15	10/12/15	21/06/16
Time of measurement	-	15:59	12:44	14:13	13:00	11:46	15:19	15:28	14:58	14:43	14:28	11:13	15:11
Methane	% vol	0.5	<0.1	0.1	<0.1	0.2	<0.1	0.5	0.1	<0.1	0.6	0.1	<0.1
Carbon Dioxide	% vol	0.3	<0.1	<0.1	<0.1	0.3	0.1	0.2	0.1	<0.1	0.2	0.1	0.1
Oxygen	% vol	20.6	20.7	20.5	21.2	21	21.3	20.6	20.7	21.1	19.9	22.3	20.5
Atmospheric Pressure	mbars	1000	994	1009	1011	1007	1010	1006	1012	1011	1007	1003	1004
Gas Pressure	mbars	-0.16	-0.27	-0.14	0.01	-0.13	0.01	-0.47	<0.01	0.09	-0.14	-0.09	0.12
Gas Flow Rate	l/hr	-0.2	<0.1	<0.1	<0.1	<0.1	0.7	0.1	-0.1	-0.3	-0.1	<0.1	-0.2
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV203

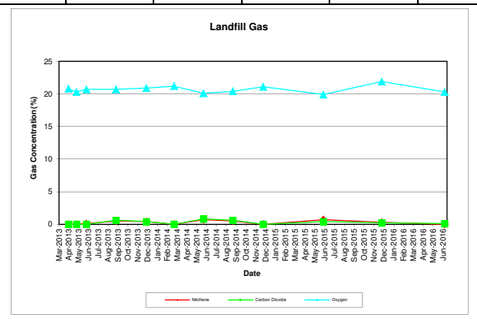
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	12/12/13	07/03/14	06/06/14	05/09/14	08/12/14	12/06/15	10/12/15	21/06/16
Time of measurement	-	16:19	13:01	14:40	12:42	11:28	15:05	15:10	14:42	14:25	14:11	10:30	15:01
Methane	% vol	0.5	3.1	0.1	0.7	0.1	<0.1	0.1	<0.1	<0.1	0.5	<0.1	<0.1
Carbon Dioxide	% vol	0.1	1.7	<0.1	0.5	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1
Oxygen	% vol	20.6	19	20.7	20.8	21.2	21.2	20.9	20.8	21.2	20.1	21.8	21
Atmospheric Pressure	mbars	1000	994	1009	1011	1007	1009	1006	1012	1010	1007	1003	1006
Gas Pressure	mbars	-0.07	-0.14	-0.25	0.01	-0.24	0.04	-0.47	<0.01	0.16	-0.09	-0.09	<0.01
Gas Flow Rate	l/hr	-0.3	-0.2	-0.3	<0.1	<0.1	-0.4	0.1	-0.1	-0.1	<0.1	0.2	<0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV204

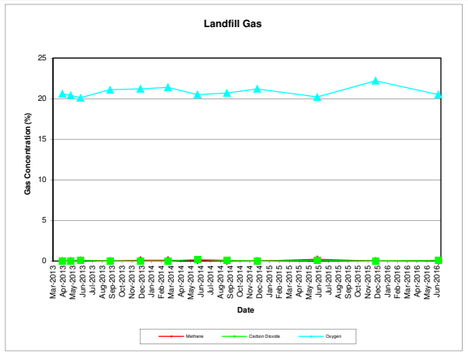
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	12/12/13	07/03/14	06/06/14	05/09/14	08/12/14	12/06/15	10/12/15	21/06/16
Time of measurement	-	16:15	13:05	14:36	12:45	11:25	15:02	15:05	14:39	14:28	14:07	10:33	15:00
Methane	% vol	<0.1	<0.1	0.1	0.5	0.4	<0.1	0.7	0.5	<0.1	0.7	0.3	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	0.6	0.4	<0.1	0.8	0.6	<0.1	0.4	0.2	0.1
Oxygen	% vol	20.8	20.3	20.7	20.7	20.9	21.2	20.1	20.4	21.1	19.9	21.9	20.3
Atmospheric Pressure	mbars	1000	994	1009	1011	1007	1009	1006	1012	1010	1007	1004	1005
Gas Pressure	mbars	-0.25	-0.09	-0.15	0.02	-0.1	<0.01	-0.48	-0.07	0.01	-0.04	-0.26	<0.01
Gas Flow Rate	l/hr	-0.1	-0.3	<0.1	<0.1	<0.1	0.3	0.2	-0.1	-0.2	<0.1	0.1	-0.2
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV205

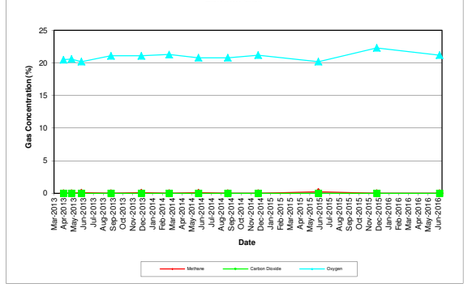
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	12/12/13	07/03/14	06/06/14	05/09/14	08/12/14	12/06/15	10/12/15	21/06/16
Time of measurement	-	13:03	13:12	13:54	12:35	11:22	12:19	15:00	14:32	14:18	14:04	10:36	13:38
Methane	% vol	<0.1	<0.1	0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	0.1	<0.1	0.1
Oxygen	% vol	20.6	20.4	20.1	21.1	21.2	21.4	20.5	20.7	21.2	20.2	22.2	20.5
Atmospheric Pressure	mbars	998	994	1009	1011	1007	1003	1006	1012	1010	1007	1004	1004
Gas Pressure	mbars	0.01	-0.04	-0.11	-0.01	-0.12	<0.01	-0.45	<0.01	0.01	-0.02	-0.19	0.14
Gas Flow Rate	l/hr	0.1	-0.2	<0.1	<0.1	<0.1	<0.1	0.1	-0.1	-0.1	<0.1	0.1	<0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV206

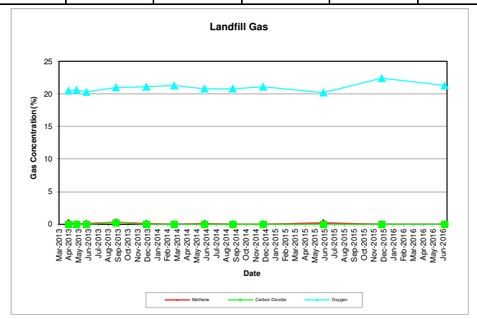
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	12/12/13	07/03/14	06/06/14	05/09/14	08/12/14	12/06/15	10/12/15	21/06/16
Time of measurement	-	13:07	11:44	13:58	12:31	11:16	15:34	15:33	14:28	14:15	14:00	10:41	14:37
Methane	% vol	<0.1	<0.1	0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Oxygen	% vol	20.5	20.6	20.2	21.1	21.1	21.3	20.8	20.8	21.2	20.2	22.3	21.2
Atmospheric Pressure	mbars	998	993	1010	1011	1007	1011	1006	1012	1010	1007	1003	1006
Gas Pressure	mbars	-0.13	<0.01	-0.04	0.01	-0.15	<0.01	-0.52	-0.01	0.16	-0.01	-0.56	<0.01
Gas Flow Rate	l/hr	-0.1	-0.2	<0.1	0.1	<0.1	0.8	0.1	-0.1	-0.1	<0.1	-0.1	0.2
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV207

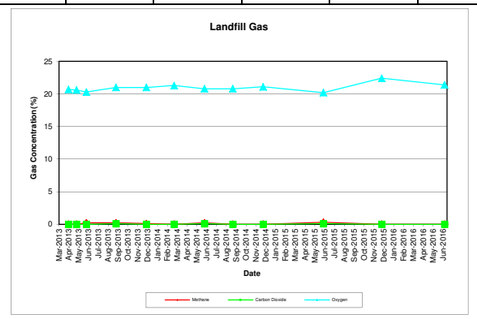
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	12/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	10/12/15	21/06/16
Time of measurement	-	13:10	11:47	14:01	12:28	11:13	15:31	14:19	14:25	14:12	13:57	10:44	14:34
Methane	% vol	0.2	<0.1	0.1	0.3	0.1	<0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Oxygen	% vol	20.5	20.6	20.3	21	21.1	21.3	20.8	20.8	21.1	20.2	22.4	21.3
Atmospheric Pressure	mbars	998	993	1009	1010	1007	1011	1010	1012	1009	1007	1004	1006
Gas Pressure	mbars	-0.15	<0.01	-0.12	<0.01	-0.15	-0.26	0.03	<0.01	0.1	-0.03	-0.14	<0.01
Gas Flow Rate	l/hr	<0.1	0.2	<0.1	<0.1	<0.1	-0.6	-0.2	-0.1	<0.1	<0.1	0.1	<0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV208

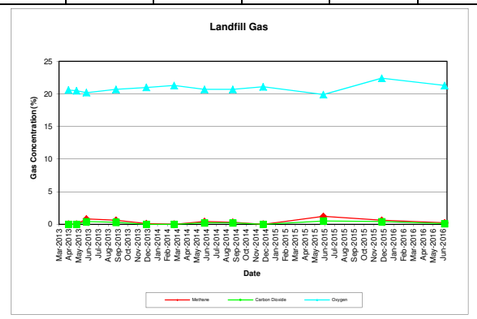
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	12/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	10/12/15	21/06/16
Time of measurement	-	13:15	11:50	14:04	12:25	11:09	15:29	14:22	14:22	14:09	13:54	10:47	14:31
Methane	% vol	<0.1	<0.1	0.2	0.2	0.1	<0.1	0.2	<0.1	<0.1	0.3	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1
Oxygen	% vol	20.7	20.6	20.3	21	21	21.3	20.8	20.8	21.1	20.2	22.4	21.4
Atmospheric Pressure	mbars	998	993	1009	1010	1007	1010	1011	1012	1009	1007	1003	1006
Gas Pressure	mbars	-0.17	<0.01	-0.14	0.01	-0.18	-0.13	0.1	0.02	0.12	-0.04	-0.45	<0.01
Gas Flow Rate	l/hr	0.1	0.2	<0.1	0.1	-0.1	-0.3	-0.1	-0.1	<0.1	<0.1	0.1	<0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV209**

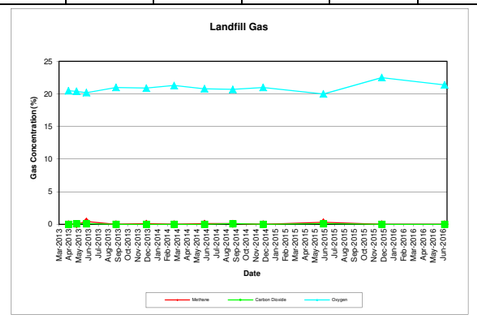
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	12/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	10/12/15	21/06/16
Time of measurement	-	13:18	11:55	14:06	12:23	11:06	15:26	14:25	14:18	14:07	13:50	10:51	14:29
Methane	% vol	<0.1	<0.1	0.8	0.6	0.1	<0.1	0.4	0.3	<0.1	1.2	0.6	0.2
Carbon Dioxide	% vol	<0.1	<0.1	0.4	0.3	<0.1	<0.1	0.2	0.2	<0.1	0.5	0.4	0.1
Oxygen	% vol	20.6	20.5	20.2	20.7	21	21.3	20.7	20.7	21.1	19.9	22.4	21.3
Atmospheric Pressure	mbars	998	993	1009	1010	1007	1010	1011	1012	1009	1007	1003	1006
Gas Pressure	mbars	-0.22	-0.06	-0.12	<0.01	-0.3	<0.01	-0.07	-0.02	0.12	-0.03	-0.33	<0.01
Gas Flow Rate	l/hr	0.2	0.2	-0.1	0.1	<0.1	-0.8	-0.1	-0.1	<0.1	<0.1	<0.1	-0.2
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV210**

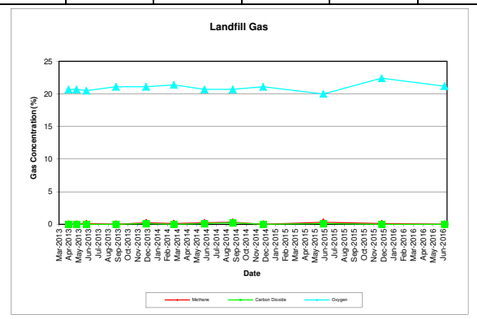
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	12/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	10/12/15	21/06/16
Time of measurement	-	13:22	11:59	14:09	12:19	11:02	15:23	14:28	14:15	14:04	13:47	10:55	14:25
Methane	% vol	<0.1	<0.1	0.4	<0.1	0.1	<0.1	0.1	0.1	<0.1	0.3	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1
Oxygen	% vol	20.5	20.4	20.2	21	20.9	21.3	20.8	20.7	21	20	22.5	21.4
Atmospheric Pressure	mbars	998	993	1009	1010	1007	1010	1011	1012	1009	1007	1003	1006
Gas Pressure	mbars	<0.01	0.16	-0.2	<0.01	-0.18	-0.61	0.1	-0.08	0.02	<0.01	-0.09	<0.01
Gas Flow Rate	l/hr	0.4	-0.5	<0.1	0.1	-0.1	0.1	<0.1	-0.2	<0.1	<0.1	<0.1	-0.2
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV211

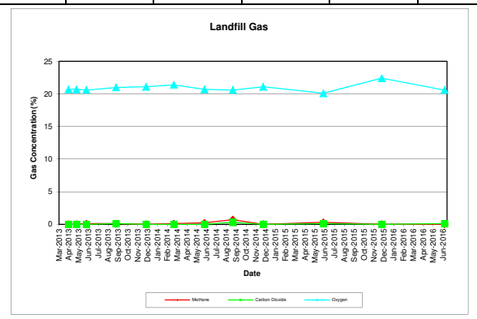
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	10/12/15	21/06/16
Time of measurement	-	13:27	12:24	12:39	11:55	14:17	12:52	14:00	12:03	12:06	13:38	11:07	13:50
Methane	% vol	<0.1	<0.1	0.1	<0.1	0.2	0.1	0.2	0.3	<0.1	0.3	0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.2	<0.1	0.1	<0.1	<0.1
Oxygen	% vol	20.7	20.7	20.5	21.1	21.1	21.4	20.7	20.7	21.1	20	22.4	21.2
Atmospheric Pressure	mbars	998	993	1009	1010	1015	1005	1011	1011	1006	1007	1003	1006
Gas Pressure	mbars	-0.13	-0.03	-0.16	-0.01	-0.01	-0.1	0.14	-0.07	0.19	0.04	-0.04	<0.01
Gas Flow Rate	l/hr	-0.3	<0.1	<0.1	-0.1	0.1	-0.1	<0.1	-0.1	-0.1	-0.1	-0.1	<0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV212**

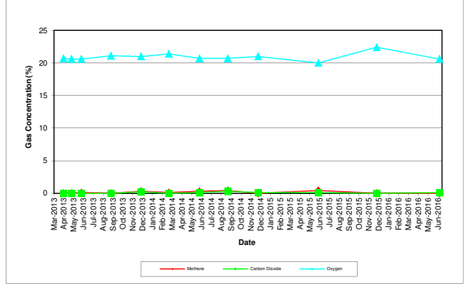
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	10/12/15	21/06/16
Time of measurement	-	13:30	12:29	12:42	11:59	14:22	12:55	14:03	12:06	12:09	13:41	11:03	13:50
Methane	% vol	<0.1	<0.1	0.1	0.1	<0.1	0.1	0.2	0.7	<0.1	0.3	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.3	<0.1	0.1	<0.1	0.1
Oxygen	% vol	20.7	20.7	20.6	21	21.1	21.4	20.7	20.6	21.1	20.1	22.4	20.6
Atmospheric Pressure	mbars	998	993	1009	1010	1014	1004	1011	1011	1006	1008	1003	1004
Gas Pressure	mbars	-0.17	-0.03	-0.24	<0.01	-0.08	-0.3	0.08	-0.09	0.14	0.02	-0.08	-0.17
Gas Flow Rate	l/hr	-0.1	-0.1	<0.1	<0.1	0.1	<0.1	<0.1	-0.1	-0.2	<0.1	0.1	-0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV213**

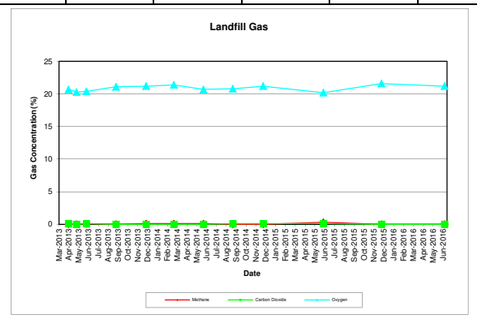
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	10/12/15	21/06/16
Time of measurement	-	13:38	12:32	12:46	12:03	14:26	12:58	14:06	12:09	12:12	13:44	10:59	13:53
Methane	% vol	<0.1	<0.1	0.1	<0.1	0.3	0.1	0.3	0.4	<0.1	0.4	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.1	0.3	0.1	0.1	<0.1	0.1
Oxygen	% vol	20.7	20.6	20.6	21.1	21	21.4	20.7	20.7	21	20	22.4	20.6
Atmospheric Pressure	mbars	998	993	1009	1010	1015	1005	1011	1011	1006	1007	1003	1004
Gas Pressure	mbars	-0.31	-0.12	-0.23	<0.01	-0.03	0.17	0.12	-0.12	0.08	0.02	-0.09	-0.14
Gas Flow Rate	l/hr	0.3	-0.2	<0.1	<0.1	-0.4	-0.2	<0.1	-0.1	-0.1	<0.1	<0.1	-0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV214**

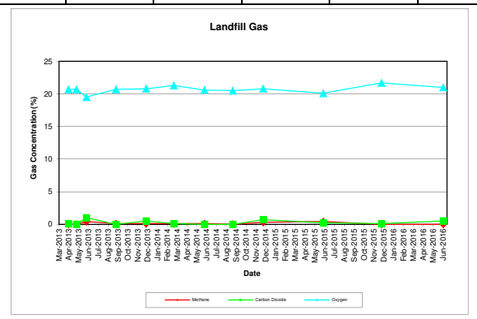
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	06/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	15:39	13:08	11:00	12:37	11:56	11:03	14:57	14:35	14:21	10:46	12:13	13:43
Methane	% vol	<0.1	<0.1	0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	0.3	<0.1	<0.1
Carbon Dioxide	% vol	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1
Oxygen	% vol	20.7	20.3	20.4	21.1	21.2	21.4	20.7	20.8	21.2	20.2	21.6	21.2
Atmospheric Pressure	mbars	999	994	1009	1011	1015	1001	1006	1012	1010	1008	1003	1006
Gas Pressure	mbars	-0.12	-0.13	-0.16	-0.09	0.1	<0.01	-0.47	-0.16	0.1	0.08	0.1	<0.01
Gas Flow Rate	l/hr	-0.2	0.1	<0.1	<0.1	<0.1	-0.4	0.1	-0.2	<0.1	-0.1	0.4	<0.1
Comments													Gas tap requires replacing



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV215

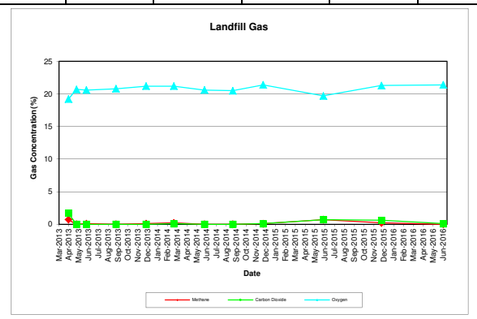
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	10:27	09:39	10:57	10:28	11:53	11:00	12:04	10:28	10:42	10:42	10:57	14:01
Methane	% vol	<0.1	<0.1	0.4	0.1	0.1	0.1	0.1	<0.1	0.3	0.4	<0.1	<0.1
Carbon Dioxide	% vol	0.1	<0.1	1	<0.1	0.5	0.1	<0.1	<0.1	0.7	0.2	0.1	0.5
Oxygen	% vol	20.7	20.7	19.5	20.7	20.8	21.3	20.6	20.5	20.8	20.1	21.7	21
Atmospheric Pressure	mbars	997	991	1009	1010	1015	1000	1011	1011	1003	1008	1005	1000
Gas Pressure	mbars	0.03	<0.01	-0.15	0.05	-0.05	<0.01	-0.39	-0.01	0.12	0.03	0.07	0.12
Gas Flow Rate	l/hr	-0.2	0.7	<0.1	<0.1	-1	0.2	<0.1	-0.1	<0.1	-0.1	0.3	0.5
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV216

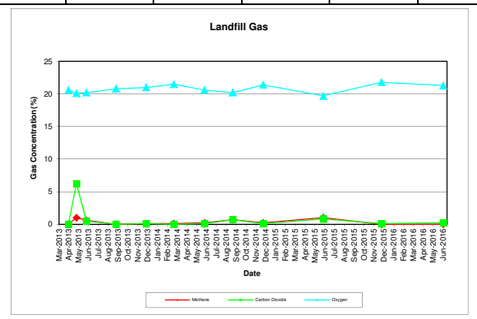
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	10:31	09:43	10:53	10:31	11:50	10:57	12:01	10:25	10:40	10:39	11:01	13:58
Methane	% vol	0.7	<0.1	0.1	<0.1	0.1	0.2	<0.1	<0.1	0.1	0.7	0.2	<0.1
Carbon Dioxide	% vol	1.7	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	0.7	0.6	0.1
Oxygen	% vol	19.2	20.7	20.6	20.8	21.2	21.2	20.6	20.5	21.4	19.7	21.3	21.4
Atmospheric Pressure	mbars	997	991	1009	1010	1015	1000	1011	1011	1003	1008	1005	1000
Gas Pressure	mbars	0.16	0.09	-0.09	0.08	0.01	-0.25	-0.4	-0.01	0.09	0.08	<0.01	-0.09
Gas Flow Rate	l/hr	-0.2	0.1	<0.1	<0.1	-1.1	-0.2	<0.1	-0.1	<0.1	<0.1	0.2	0.4
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV217**

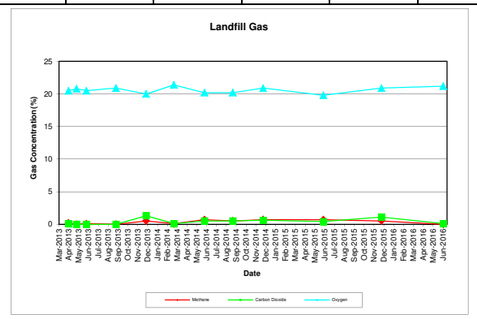
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	10:35	09:49	10:51	10:34	11:46	10:53	11:58	10:22	10:37	10:36	11:04	13:56
Methane	% vol	<0.1	1	0.6	<0.1	0.1	0.1	0.2	0.7	0.2	1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	6.2	0.5	<0.1	0.1	<0.1	0.1	0.7	0.1	0.8	0.1	0.2
Oxygen	% vol	20.6	20.1	20.2	20.8	21	21.5	20.6	20.2	21.4	19.7	21.8	21.3
Atmospheric Pressure	mbars	997	991	1008	1010	1015	999	1010	1011	1002	1008	1004	1000
Gas Pressure	mbars	0.01	-0.11	-0.13	0.05	0.12	-0.6	-0.41	0.01	0.12	0.08	0.02	-0.19
Gas Flow Rate	l/hr	<0.1	<0.1	-0.1	<0.1	0.1	-0.3	<0.1	-0.1	<0.1	-0.1	0.3	0.6
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV218

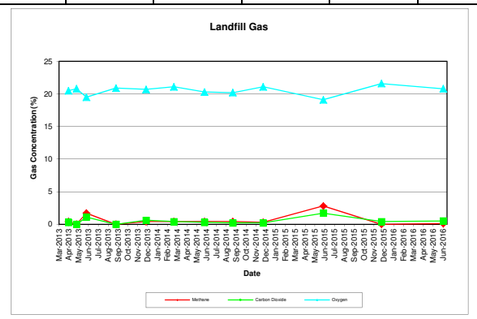
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	10:38	09:53	10:47	10:37	11:42	10:49	11:54	10:19	10:34	10:32	11:07	13:53
Methane	% vol	0.2	<0.1	0.1	<0.1	0.5	0.1	0.7	0.5	0.7	0.7	0.5	<0.1
Carbon Dioxide	% vol	0.1	<0.1	<0.1	<0.1	1.3	0.1	0.5	0.5	0.6	0.4	1.1	0.1
Oxygen	% vol	20.5	20.8	20.5	20.9	20	21.4	20.2	20.2	20.9	19.8	20.9	21.2
Atmospheric Pressure	mbars	997	991	1009	1010	1015	999	1010	1011	1002	1008	1004	999
Gas Pressure	mbars	0.02	0.07	-0.14	0.13	0.08	-0.19	-0.43	-0.02	0.17	0.09	0.05	0.03
Gas Flow Rate	l/hr	0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	-0.1	-0.1	-0.1	0.3	0.5
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV219

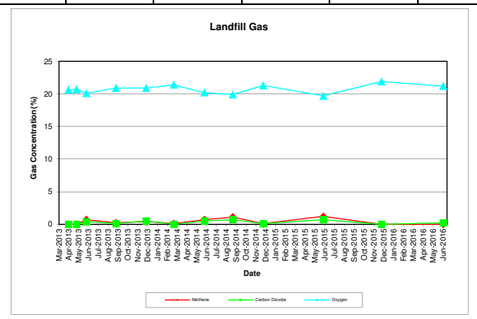
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	10:43	09:55	10:44	10:41	11:39	10:45	11:49	10:16	10:31	10:29	11:10	13:50
Methane	% vol	0.4	<0.1	1.7	<0.1	0.4	0.4	0.4	0.4	0.3	2.8	<0.1	0.1
Carbon Dioxide	% vol	0.3	<0.1	1.1	<0.1	0.6	0.4	0.3	0.2	0.2	1.7	0.4	0.5
Oxygen	% vol	20.5	20.8	19.5	20.9	20.7	21.1	20.3	20.2	21.1	19.1	21.6	20.8
Atmospheric Pressure	mbars	996	991	1009	1009	1015	999	1010	1011	1002	1008	1004	999
Gas Pressure	mbars	-0.07	0.07	-0.18	0.04	0.06	-0.33	-0.43	-0.01	0.01	0.1	<0.01	0.07
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	0.2	-0.1	<0.1	-0.1	<0.1	-0.1	0.3	0.5
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV220**

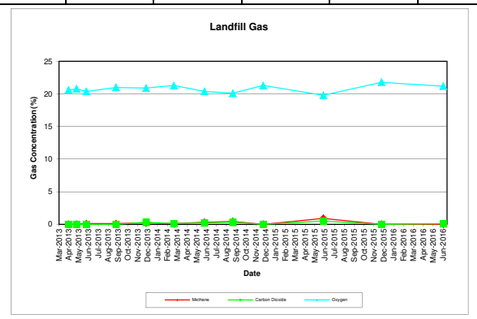
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	10:46	09:59	10:41	10:44	11:36	10:42	11:46	10:13	10:29	10:26	11:14	13:47
Methane	% vol	<0.1	<0.1	0.7	0.2	0.4	0.1	0.7	1.1	0.1	1.2	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	0.4	0.1	0.5	<0.1	0.5	0.7	0.1	0.7	<0.1	0.2
Oxygen	% vol	20.6	20.7	20.1	20.9	20.9	21.4	20.2	19.9	21.3	19.7	21.9	21.2
Atmospheric Pressure	mbars	996	991	1009	1009	1015	999	1011	1011	1002	1008	1004	999
Gas Pressure	mbars	-0.08	-0.11	-0.19	0.04	-0.51	-0.16	-0.42	<0.01	<0.01	0.11	<0.01	0.14
Gas Flow Rate	l/hr	0.2	-0.5	-0.1	<0.1	1.6	-0.1	<0.1	-0.1	<0.1	-0.1	0.3	-0.2
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV221**

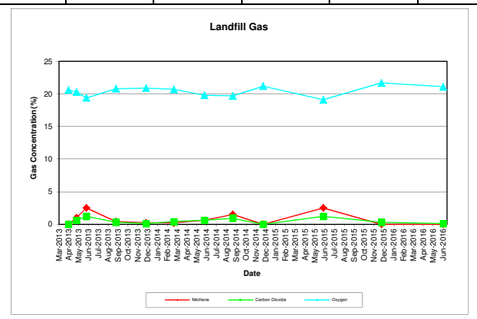
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	10:49	10:02	10:38	10:47	11:33	10:38	11:43	10:10	10:26	10:20	11:17	13:44
Methane	% vol	<0.1	<0.1	0.1	0.1	0.2	0.1	0.3	0.4	<0.1	0.9	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	0.3	0.1	0.2	0.3	<0.1	0.5	<0.1	0.1
Oxygen	% vol	20.6	20.8	20.4	21	20.9	21.3	20.4	20.1	21.3	19.8	21.8	21.2
Atmospheric Pressure	mbars	997	991	1009	1009	1015	999	1011	1011	1002	1008	1004	999
Gas Pressure	mbars	-0.19	0.01	-0.13	0.04	0.05	-0.28	-0.38	0.02	0.01	0.14	0.09	<0.01
Gas Flow Rate	l/hr	<0.1	<0.1	<0.1	<0.1	1.3	-0.3	<0.1	-0.1	<0.1	-0.1	0.3	0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV222**

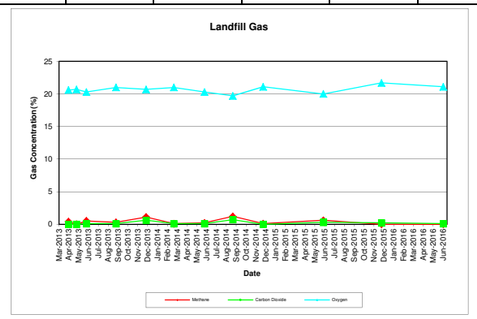
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	10:53	10:05	10:34	10:50	11:30	10:35	11:40	10:08	10:24	10:17	11:20	13:42
Methane	% vol	<0.1	1	2.5	0.4	0.2	0.2	0.6	1.5	<0.1	2.5	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	0.6	1.2	0.3	0.1	0.4	0.6	0.9	<0.1	1.2	0.3	0.1
Oxygen	% vol	20.6	20.3	19.4	20.8	20.9	20.7	19.8	19.7	21.2	19.1	21.7	21.1
Atmospheric Pressure	mbars	997	991	1009	1009	1015	999	1011	1011	1002	1008	1004	999
Gas Pressure	mbars	-0.12	0.01	-0.13	0.03	-0.65	-0.28	-0.38	0.01	-0.19	0.16	0.03	-0.02
Gas Flow Rate	l/hr	0.2	0.1	<0.1	<0.1	0.2	-0.4	-0.1	-0.1	<0.1	-0.1	0.3	0.2
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV223

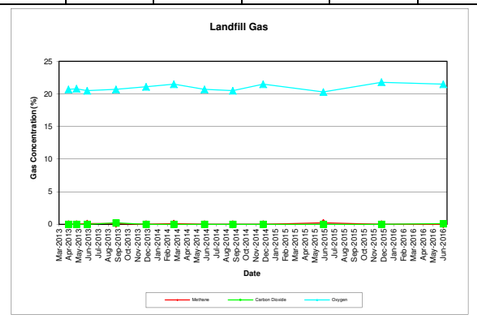
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	11:02	10:08	10:31	10:53	11:26	10:30	11:37	10:05	10:21	10:13	11:23	13:38
Methane	% vol	0.4	<0.1	0.5	0.3	1.1	0.1	0.2	1.2	0.1	0.6	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	0.1	0.1	0.6	0.1	0.1	0.7	<0.1	0.3	0.2	0.1
Oxygen	% vol	20.6	20.7	20.3	21	20.7	21	20.3	19.7	21.1	20	21.7	21.1
Atmospheric Pressure	mbars	997	991	1009	1009	1016	999	1010	1011	1002	1008	1004	999
Gas Pressure	mbars	-0.4	-0.01	-0.09	0.01	<0.01	-0.01	-0.35	<0.01	0.09	0.17	0.12	0.12
Gas Flow Rate	l/hr	0.4	<0.1	<0.1	<0.1	0.4	0.1	<0.1	<0.1	0.1	-0.1	0.3	0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV224

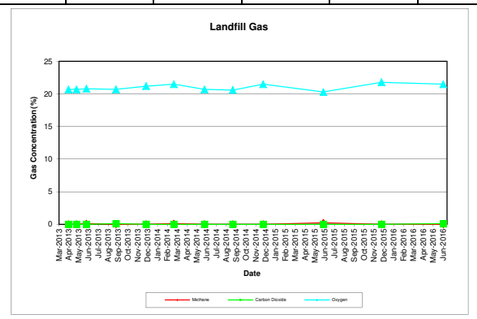
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	12/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	11:29	10:30	11:48	10:24	12:05	11:08	12:09	10:32	10:46	10:50	10:51	14:05
Methane	% vol	<0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
Oxygen	% vol	20.7	20.8	20.5	20.7	21.1	21.5	20.7	20.5	21.5	20.3	21.8	21.5
Atmospheric Pressure	mbars	997	991	996	1010	1015	1000	1011	1011	1003	1008	1005	1000
Gas Pressure	mbars	-0.22	-0.03	-0.07	0.13	-0.28	<0.01	-0.46	-0.04	-0.03	0.04	0.02	0.07
Gas Flow Rate	l/hr	-0.2	0.1	0.1	<0.1	-0.1	-0.4	-0.2	-0.1	-0.1	<0.1	0.3	0.4
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV225

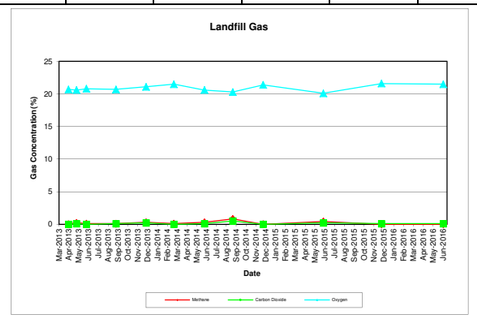
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	11:24	10:27	11:04	10:21	12:07	11:11	12:12	10:35	10:48	10:53	10:48	14:08
Methane	% vol	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
Oxygen	% vol	20.7	20.7	20.8	20.7	21.2	21.5	20.7	20.6	21.5	20.3	21.8	21.5
Atmospheric Pressure	mbars	997	991	1010	1010	1015	1000	1011	1011	1003	1007	1004	1000
Gas Pressure	mbars	-0.1	-0.03	-0.15	0.14	-0.06	-0.12	-0.42	-0.02	0.11	-0.01	0.07	0.03
Gas Flow Rate	l/hr	-0.4	0.2	<0.1	<0.1	<0.1	-0.3	<0.1	-0.1	-0.1	-0.1	0.3	0.4
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV226**

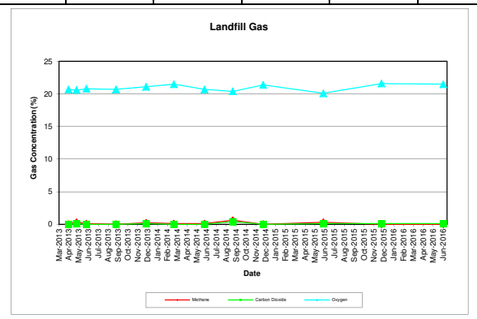
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	11:20	10:24	11:10	10:18	12:10	11:14	12:15	10:39	10:51	10:57	10:45	14:11
Methane	% vol	<0.1	0.2	0.1	0.1	0.3	0.1	0.3	0.8	<0.1	0.4	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	0.1	<0.1	0.1	0.2	<0.1	0.1	0.5	<0.1	0.2	0.1	0.1
Oxygen	% vol	20.7	20.6	20.8	20.7	21.1	21.5	20.6	20.3	21.4	20.1	21.6	21.5
Atmospheric Pressure	mbars	997	991	1009	1010	1015	1000	1010	1011	1003	1007	1004	1000
Gas Pressure	mbars	-0.16	-0.02	-0.15	0.12	-0.13	-0.16	-0.37	-0.05	0.05	-0.01	<0.01	<0.01
Gas Flow Rate	l/hr	-0.2	0.2	0.1	<0.1	0.1	<0.1	<0.1	-0.1	-0.1	-0.1	0.3	0.4
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV227

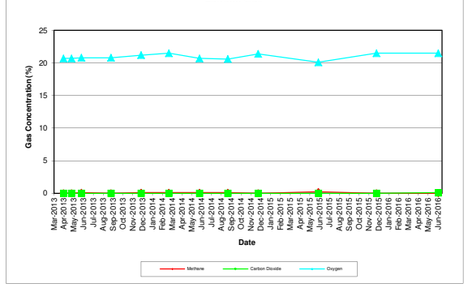
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	11:16	10:20	11:14	10:16	12:13	11:17	12:18	10:42	10:54	10:59	10:41	14:13
Methane	% vol	<0.1	0.3	0.1	<0.1	0.2	0.1	0.1	0.6	<0.1	0.3	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.4	<0.1	0.1	0.1	0.1
Oxygen	% vol	20.7	20.6	20.8	20.7	21.1	21.5	20.7	20.4	21.4	20.1	21.6	21.5
Atmospheric Pressure	mbars	997	991	1009	1010	1015	1001	1010	1011	1003	1007	1004	1000
Gas Pressure	mbars	-0.15	<0.01	-0.11	0.15	-0.1	-0.28	-0.39	-0.04	0.13	-0.02	0.07	-0.05
Gas Flow Rate	l/hr	-0.2	0.2	-0.1	<0.1	<0.1	-0.2	<0.1	-0.1	<0.1	-0.2	0.4	0.2
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV228

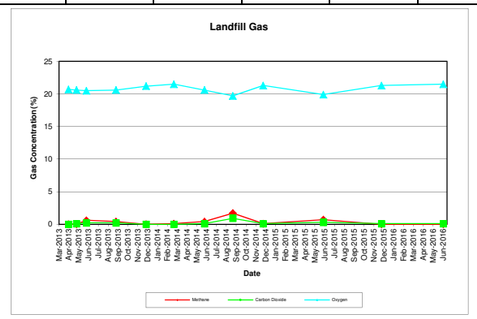
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	11:13	10:17	11:16	10:13	12:16	11:20	12:21	10:45	10:56	11:03	10:38	14:16
Methane	% vol	<0.1	<0.1	0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
Oxygen	% vol	20.7	20.7	20.8	20.8	21.2	21.5	20.7	20.6	21.4	20.1	21.5	21.5
Atmospheric Pressure	mbars	997	991	1009	1010	1015	1001	1010	1011	1003	1007	1004	1000
Gas Pressure	mbars	-0.16	<0.01	<0.01	0.18	-0.14	-0.14	-0.41	-0.07	0.15	-0.03	0.03	0.07
Gas Flow Rate	l/hr	-0.2	0.7	<0.1	<0.1	0.1	-0.1	<0.1	-0.1	<0.1	-0.1	0.6	0.4
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV229**

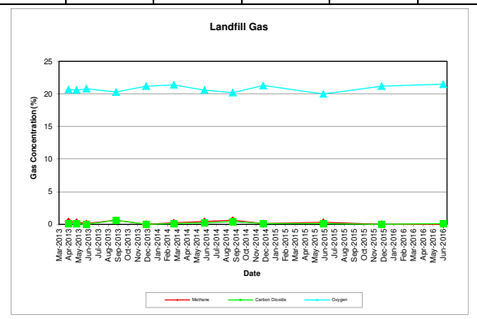
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	11:10	10:14	11:19	10:10	12:19	11:24	12:24	10:48	10:59	11:05	10:34	14:19
Methane	% vol	<0.1	<0.1	0.6	0.4	<0.1	0.1	0.4	1.7	0.1	0.7	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	0.1	0.2	0.2	<0.1	<0.1	0.1	0.9	0.1	0.3	0.1	0.1
Oxygen	% vol	20.7	20.6	20.5	20.6	21.2	21.5	20.6	19.7	21.3	19.9	21.3	21.5
Atmospheric Pressure	mbars	997	991	1009	1010	1015	1001	1010	1011	1003	1007	1004	1000
Gas Pressure	mbars	-0.13	0.02	-0.09	0.2	-0.08	-0.04	-0.43	-0.06	0.12	-0.03	0.05	0.09
Gas Flow Rate	l/hr	-0.1	0.1	<0.1	-0.1	<0.1	0.7	<0.1	-0.1	-0.1	-0.2	0.3	0.3
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV230**

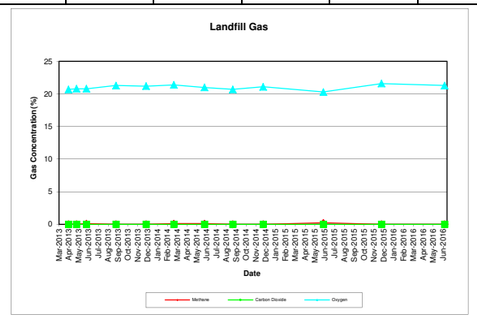
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	17/06/16
Time of measurement	-	11:06	10:11	11:22	10:07	12:22	11:27	12:28	10:51	11:01	11:08	10:30	14:21
Methane	% vol	0.4	0.3	0.1	0.6	<0.1	0.2	0.4	0.6	0.1	0.3	<0.1	<0.1
Carbon Dioxide	% vol	0.1	0.1	<0.1	0.6	<0.1	0.1	0.2	0.4	0.1	0.1	<0.1	0.1
Oxygen	% vol	20.7	20.6	20.8	20.3	21.2	21.4	20.6	20.2	21.3	20	21.2	21.5
Atmospheric Pressure	mbars	997	991	1009	1010	1015	1001	1010	1011	1003	1007	1004	1000
Gas Pressure	mbars	-0.11	0.01	-0.2	0.21	0.04	-0.14	-0.48	-0.07	0.16	-0.02	0.03	0.09
Gas Flow Rate	l/hr	<0.1	-0.3	-0.2	<0.1	-0.1	-0.1	-0.1	-0.1	<0.1	-0.2	0.3	0.3
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV231**

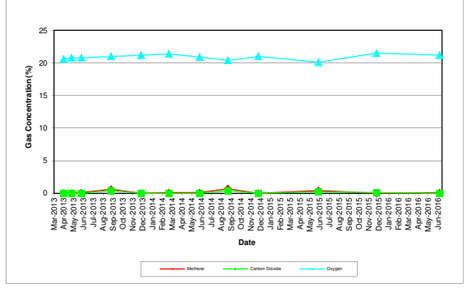
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	11:33	10:34	11:57	11:25	13:45	12:16	12:57	11:31	11:39	11:38	12:08	13:39
Methane	% vol	<0.1	<0.1	0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Oxygen	% vol	20.7	20.8	20.8	21.3	21.2	21.4	21	20.7	21.1	20.3	21.6	21.3
Atmospheric Pressure	mbars	997	991	1009	1010	1015	1003	1011	1011	1005	1007	1003	1006
Gas Pressure	mbars	-0.11	<0.01	-0.23	<0.01	0.08	-0.17	0.08	-0.1	0.04	-0.06	0.02	<0.01
Gas Flow Rate	l/hr	-0.1	-0.1	<0.1	<0.1	<0.1	0.4	<0.1	-0.1	-0.2	<0.1	0.4	<0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV232**

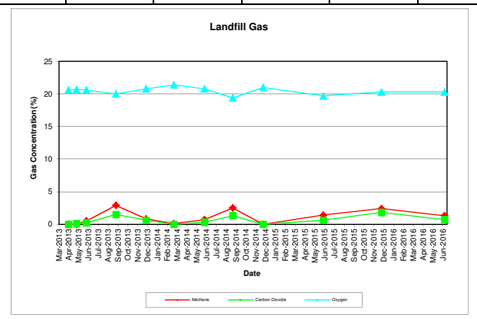
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	11:37	10:38	11:54	11:21	13:42	12:14	12:54	11:29	11:37	11:35	12:05	13:36
Methane	% vol	<0.1	<0.1	0.1	0.6	<0.1	0.1	0.1	0.7	<0.1	0.4	<0.1	0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	0.4	<0.1	0.2	0.1	<0.1
Oxygen	% vol	20.6	20.8	20.8	21	21.2	21.4	20.9	20.4	21	20.1	21.5	21.2
Atmospheric Pressure	mbars	997	992	1009	1010	1015	1003	1010	1011	1005	1007	1003	1006
Gas Pressure	mbars	-0.29	-0.03	-0.17	<0.01	<0.01	-0.09	0.12	-0.05	0.19	-0.06	0.05	<0.01
Gas Flow Rate	l/hr	-0.5	0.2	-0.1	<0.1	<0.1	-0.2	<0.1	-0.1	-0.1	-0.1	0.3	-0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV233**

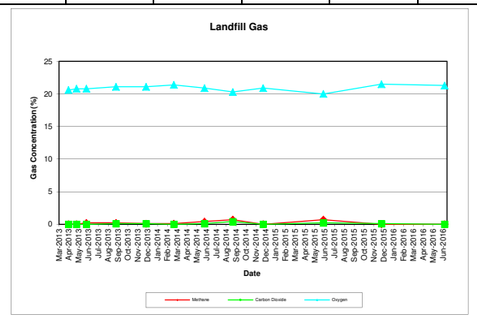
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	11:40	10:41	11:51	11:18	13:39	12:11	12:51	11:26	11:34	11:32	12:02	13:34
Methane	% vol	<0.1	<0.1	0.5	2.9	0.8	0.1	0.7	2.5	<0.1	1.4	2.4	1.3
Carbon Dioxide	% vol	<0.1	0.1	0.2	1.5	0.6	<0.1	0.3	1.3	<0.1	0.6	1.8	0.7
Oxygen	% vol	20.6	20.7	20.6	20	20.8	21.4	20.8	19.4	21	19.7	20.3	20.3
Atmospheric Pressure	mbars	997	992	1009	1010	1015	1003	1010	1011	1005	1007	1003	1006
Gas Pressure	mbars	-0.34	-0.05	-0.35	0.03	-0.02	-0.1	0.08	-0.06	0.17	-0.06	0.03	<0.01
Gas Flow Rate	l/hr	-0.3	0.1	0.1	<0.1	<0.1	0.3	<0.1	-0.1	-0.1	<0.1	0.3	<0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV234**

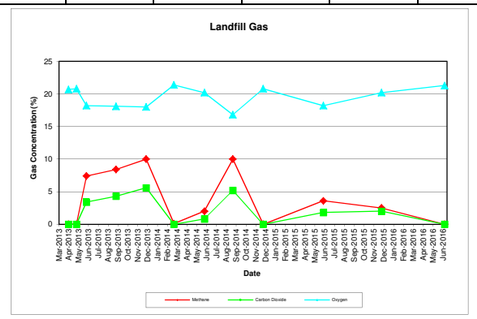
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	11:44	10:44	11:47	11:15	13:36	12:07	12:46	11:22	11:31	11:28	11:59	13:31
Methane	% vol	<0.1	<0.1	0.2	0.2	0.1	0.1	0.4	0.7	<0.1	0.7	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	0.4	<0.1	0.2	0.1	<0.1
Oxygen	% vol	20.6	20.8	20.8	21.1	21.1	21.4	20.9	20.3	20.9	20	21.5	21.3
Atmospheric Pressure	mbars	997	992	1009	1010	1015	1003	1010	1011	1005	1007	1004	1006
Gas Pressure	mbars	-0.12	-0.05	-0.29	<0.01	-0.23	<0.01	-0.03	-0.07	0.25	-0.04	0.02	<0.01
Gas Flow Rate	l/hr	-0.3	0.2	-0.1	<0.1	-0.6	-0.6	0.2	-0.1	-0.1	<0.1	0.2	-0.2
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV235**

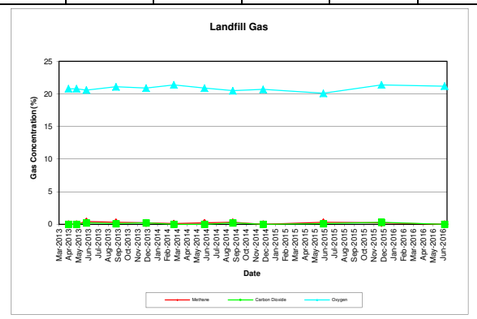
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	11:48	10:47	11:44	11:12	13:32	12:05	12:43	11:19	11:28	11:25	11:55	13:28
Methane	% vol	<0.1	<0.1	7.4	8.4	10	0.1	2	10	<0.1	3.6	2.5	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	3.4	4.3	5.6	<0.1	0.8	5.2	<0.1	1.8	2	<0.1
Oxygen	% vol	20.7	20.8	18.2	18.1	18	21.4	20.2	16.8	20.8	18.2	20.2	21.3
Atmospheric Pressure	mbars	997	992	1009	1010	1015	1002	1010	1011	1004	1007	1001	1006
Gas Pressure	mbars	-0.24	-0.04	-0.3	<0.01	-0.26	-0.14	-0.06	-0.05	0.22	-0.02	0.02	<0.01
Gas Flow Rate	l/hr	-0.3	-0.4	<0.1	<0.1	1	-0.2	0.1	-0.1	<0.1	<0.1	0.4	0.2
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV236

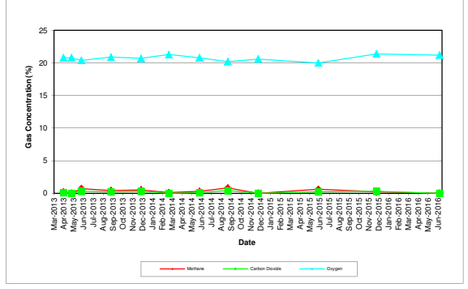
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	11:54	10:49	11:40	11:09	13:29	12:02	12:40	11:17	11:26	11:21	11:52	13:25
Methane	% vol	<0.1	<0.1	0.4	0.3	0.2	0.1	0.2	0.3	<0.1	0.3	0.2	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	0.2	0.1	0.2	<0.1	<0.1	0.2	<0.1	0.1	0.3	<0.1
Oxygen	% vol	20.8	20.8	20.6	21.1	20.9	21.4	20.9	20.5	20.7	20.1	21.4	21.2
Atmospheric Pressure	mbars	997	992	1009	1009	1015	1002	1010	1011	1004	1007	1003	1006
Gas Pressure	mbars	-0.28	-0.07	-0.24	0.03	-0.24	-0.28	-0.01	-0.08	0.12	-0.04	0.07	<0.01
Gas Flow Rate	l/hr	-0.2	<0.1	-0.2	<0.1	-0.1	0.2	0.2	-0.1	-0.1	<0.1	0.4	-0.3
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV237

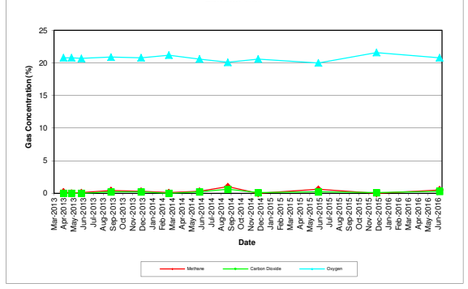
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	11:59	10:52	11:37	11:06	13:21	11:59	12:37	11:14	11:23	11:18	11:49	13:22
Methane	% vol	0.2	<0.1	0.7	0.4	0.5	0.1	0.3	0.8	<0.1	0.6	0.2	<0.1
Carbon Dioxide	% vol	0.1	<0.1	0.3	0.2	0.3	<0.1	0.1	0.4	<0.1	0.2	0.3	<0.1
Oxygen	% vol	20.8	20.8	20.4	20.9	20.7	21.3	20.8	20.2	20.6	20	21.4	21.2
Atmospheric Pressure	mbars	997	992	1009	1009	1015	1002	1010	1010	1004	1007	1003	1005
Gas Pressure	mbars	-0.84	-0.01	-0.22	0.01	-0.08	-0.16	-0.05	-0.07	-0.05	-0.03	0.09	-0.25
Gas Flow Rate	l/hr	-0.2	-0.4	<0.1	<0.1	0.7	-0.5	<0.1	-0.1	-0.1	<0.1	0.4	-0.5
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV238

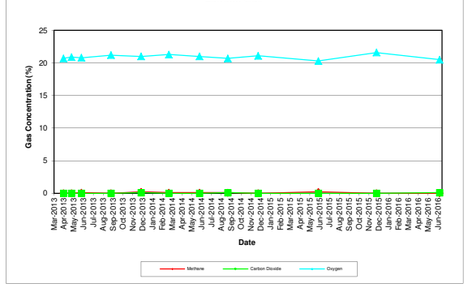
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	12:03	10:56	11:33	11:03	13:18	11:56	12:31	11:11	11:21	11:14	11:46	13:19
Methane	% vol	0.2	<0.1	0.1	0.4	0.3	0.1	0.3	1	<0.1	0.6	<0.1	0.5
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	0.2	0.2	<0.1	0.2	0.6	0.1	0.2	0.1	0.3
Oxygen	% vol	20.8	20.8	20.7	20.9	20.8	21.2	20.6	20.1	20.6	20	21.6	20.8
Atmospheric Pressure	mbars	997	992	1009	1009	1015	1002	1010	1010	1004	1007	1003	1005
Gas Pressure	mbars	-0.3	-0.04	-0.24	0.07	<0.01	-0.21	-0.49	-0.08	0.15	-0.03	<0.01	<0.01
Gas Flow Rate	l/hr	-0.3	0.2	-0.1	<0.1	<0.1	<0.1	-0.2	-0.1	-0.1	<0.1	0.4	-0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV239

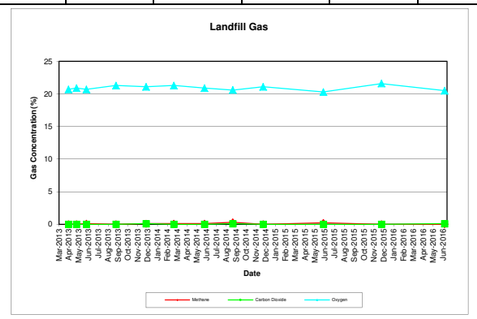
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	13:00	11:13	12:00	11:28	13:48	12:23	13:00	11:35	11:42	11:41	12:17	13:35
Methane	% vol	<0.1	<0.1	0.1	<0.1	0.2	0.1	0.1	0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1
Oxygen	% vol	20.7	20.9	20.8	21.2	21	21.3	21	20.7	21.1	20.3	21.6	20.5
Atmospheric Pressure	mbars	998	992	1009	1010	1015	1003	1011	1011	1005	1007	1004	1004
Gas Pressure	mbars	-0.41	-0.03	-0.15	0.01	-0.07	-0.05	0.03	-0.08	0.18	-0.1	0.02	0.1
Gas Flow Rate	l/hr	-0.1	0.1	-0.1	<0.1	1.1	<0.1	-0.1	-0.1	-0.2	<0.1	0.3	<0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV240**

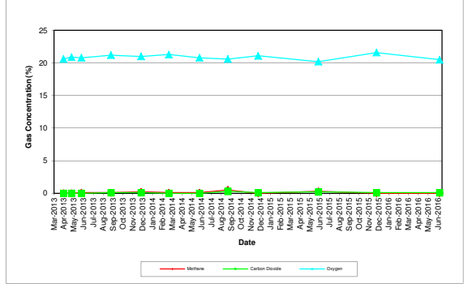
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	12:56	11:10	12:03	11:31	13:51	12:26	13:04	11:38	11:44	11:45	12:20	13:32
Methane	% vol	<0.1	<0.1	0.1	<0.1	0.1	0.1	0.1	0.3	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1
Oxygen	% vol	20.7	20.9	20.7	21.3	21.1	21.3	20.9	20.6	21.1	20.3	21.6	20.5
Atmospheric Pressure	mbars	998	992	1009	1010	1015	1003	1011	1011	1006	1007	1004	1003
Gas Pressure	mbars	-0.05	-0.05	-0.34	0.01	-0.02	-0.09	0.06	-0.06	0.33	-0.1	0.02	0.09
Gas Flow Rate	l/hr	-0.2	<0.1	-0.1	<0.1	<0.1	<0.1	<0.1	-0.1	-0.1	<0.1	0.2	-0.3
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV241

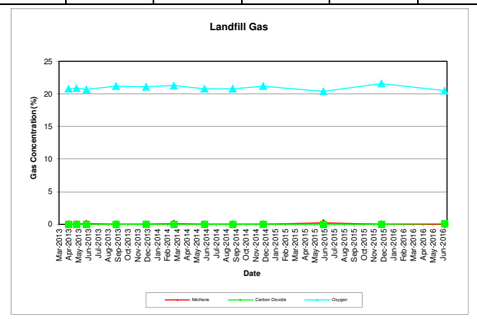
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	12:51	11:08	12:07	11:34	13:54	12:29	13:07	11:41	11:47	11:49	12:23	13:29
Methane	% vol	<0.1	<0.1	0.1	0.1	0.2	0.1	0.1	0.5	<0.1	0.3	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	0.3	0.1	0.2	0.1	0.1
Oxygen	% vol	20.6	20.9	20.8	21.2	21	21.3	20.8	20.6	21.1	20.2	21.6	20.5
Atmospheric Pressure	mbars	999	992	1009	1010	1015	1003	1011	1011	1006	1007	1003	1003
Gas Pressure	mbars	-0.13	-0.04	-0.14	0.05	-0.04	-0.05	0.08	-0.05	-0.02	-0.06	0.03	0.09
Gas Flow Rate	l/hr	-0.1	<0.1	<0.1	<0.1	0.1	0.7	<0.1	-0.1	-0.2	-0.1	0.4	-0.2
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV242

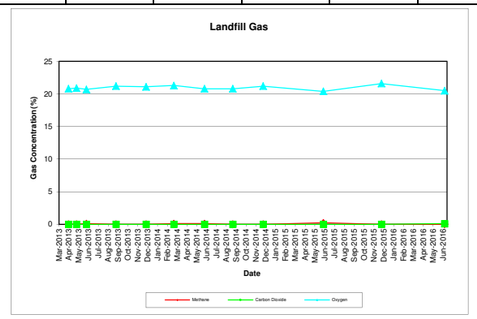
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	12:16	11:05	12:10	11:36	13:57	12:32	13:09	11:44	11:50	11:52	12:27	13:27
Methane	% vol	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
Oxygen	% vol	20.8	20.9	20.7	21.2	21.1	21.3	20.8	20.8	21.2	20.4	21.6	20.5
Atmospheric Pressure	mbars	998	992	1009	1010	1015	1003	1010	1011	1006	1007	1003	1003
Gas Pressure	mbars	-0.18	-0.03	-0.29	<0.01	0.07	-0.27	0.07	-0.05	0.1	-0.07	0.05	0.07
Gas Flow Rate	l/hr	-0.3	<0.1	0.3	<0.1	0.3	0.5	<0.1	-0.1	-0.4	<0.1	0.3	-0.2
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV243**

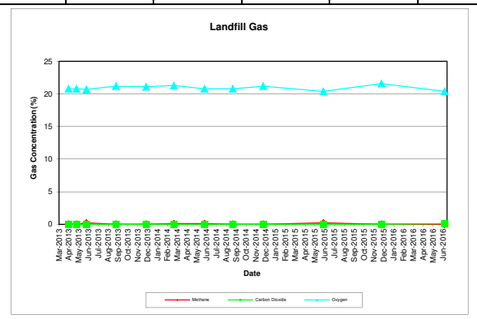
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	12:10	11:02	12:13	11:39	14:00	12:35	13:13	11:47	11:52	11:55	12:30	13:24
Methane	% vol	<0.1	<0.1	0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
Oxygen	% vol	20.8	20.9	20.7	21.2	21.1	21.3	20.8	20.8	21.2	20.4	21.6	20.5
Atmospheric Pressure	mbars	997	992	1009	1010	1015	1003	1010	1011	1005	1007	1003	1003
Gas Pressure	mbars	-0.19	-0.05	-0.31	0.04	-0.07	-0.13	0.03	-0.1	0.19	-0.06	0.02	0.02
Gas Flow Rate	l/hr	-0.3	<0.1	0.3	<0.1	0.2	<0.1	<0.1	-0.1	-0.1	<0.1	0.3	0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV244**

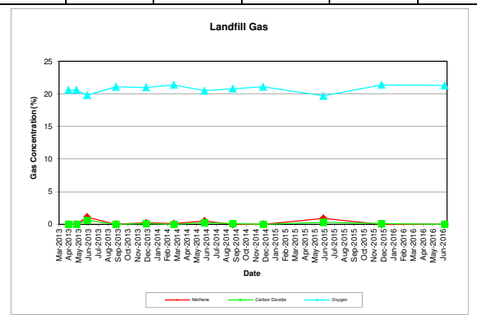
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	12:06	10:59	12:16	11:42	14:03	12:38	13:16	11:50	11:55	11:57	12:37	13:20
Methane	% vol	<0.1	<0.1	0.2	<0.1	<0.1	0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
Oxygen	% vol	20.8	20.8	20.7	21.2	21.1	21.3	20.8	20.8	21.2	20.4	21.6	20.4
Atmospheric Pressure	mbars	997	992	1009	1010	1014	1003	1010	1010	1005	1007	1003	1002
Gas Pressure	mbars	-0.03	-0.01	-0.38	0.06	-0.02	-0.05	0.08	-0.08	0.23	-0.08	-0.02	0.02
Gas Flow Rate	l/hr	-0.2	-0.1	0.2	<0.1	0.1	0.1	<0.1	-0.1	-0.1	<0.1	0.2	0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV245

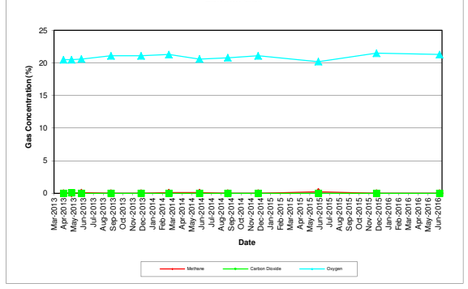
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	12/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	13:43	12:21	11:40	11:51	14:14	12:49	13:56	12:00	12:03	13:35	12;50	13:53
Methane	% vol	<0.1	<0.1	1.1	<0.1	0.2	0.1	0.5	<0.1	<0.1	0.9	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	0.6	<0.1	0.1	<0.1	0.2	0.1	<0.1	0.3	0.1	<0.1
Oxygen	% vol	20.6	20.6	19.8	21.1	21	21.4	20.5	20.8	21.1	19.7	21.4	21.3
Atmospheric Pressure	mbars	998	993	996	1010	1015	1004	1011	1011	1006	1007	1003	1006
Gas Pressure	mbars	-0.19	-0.12	-0.04	-0.07	-0.15	-0.46	0.12	-0.04	<0.01	0.07	0.03	<0.01
Gas Flow Rate	l/hr	<0.1	-0.1	0.1	<0.1	0.4	1	<0.1	-0.1	-0.1	<0.1	0.2	0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV246**

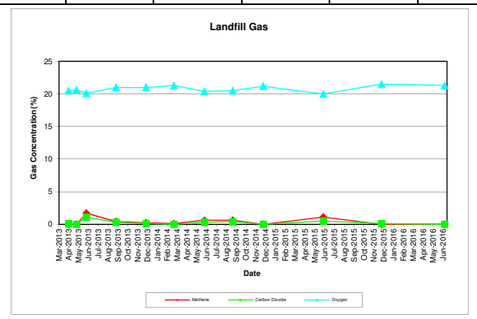
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	13:47	12:18	12:30	11:48	14:10	12:44	13:52	11:56	12:00	12:03	12:47	13:55
Methane	% vol	<0.1	<0.1	0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Oxygen	% vol	20.5	20.5	20.6	21.1	21.1	21.3	20.6	20.8	21.1	20.2	21.5	21.3
Atmospheric Pressure	mbars	998	993	1009	1010	1014	1003	1010	1011	1005	1007	1003	1006
Gas Pressure	mbars	-0.29	-0.06	-0.23	<0.01	-0.02	-0.24	0.11	-0.08	0.08	-0.01	0.05	<0.01
Gas Flow Rate	l/hr	-0.4	-0.5	<0.1	<0.1	0.2	<0.1	<0.1	-0.1	-0.1	<0.1	0.2	<0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV247**

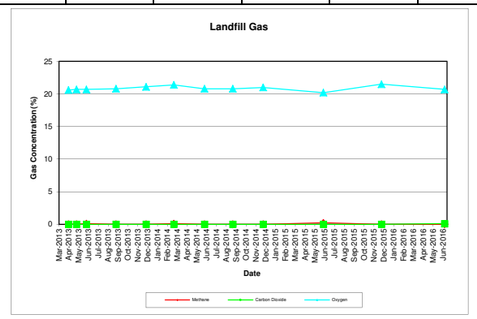
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	13:55	12:14	12:27	11:45	14:07	12:41	13:49	11:53	11:58	12:00	12:40	13:58
Methane	% vol	<0.1	<0.1	1.7	0.4	0.2	0.1	0.6	0.6	<0.1	1.1	<0.1	<0.1
Carbon Dioxide	% vol	0.1	<0.1	1.1	0.3	0.1	<0.1	0.3	0.4	<0.1	0.5	0.1	<0.1
Oxygen	% vol	20.5	20.6	20.1	21	21	21.3	20.4	20.5	21.2	20	21.5	21.3
Atmospheric Pressure	mbars	999	993	1009	1010	1014	1003	1011	1011	1005	1007	1002	1005
Gas Pressure	mbars	-0.09	-0.1	-0.21	-0.06	0.01	-0.06	0.11	-0.07	0.35	-0.07	<0.01	<0.01
Gas Flow Rate	l/hr	-0.2	<0.1	<0.1	-0.2	0.3	<0.1	<0.1	-0.1	<0.1	<0.1	0.3	<0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV248

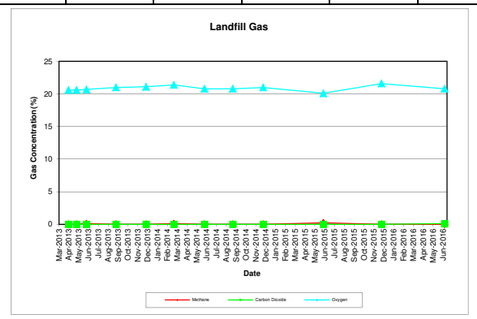
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	14:00	12:37	12:50	13:59	14:30	13:02	14:10	12:13	12:15	13:31	12:54	13:56
Methane	% vol	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
Oxygen	% vol	20.6	20.7	20.7	20.8	21.1	21.4	20.8	20.8	21	20.2	21.5	20.7
Atmospheric Pressure	mbars	999	993	1009	1010	1014	1005	1011	1011	1006	1008	1003	1004
Gas Pressure	mbars	-1	-0.02	-0.25	-0.04	-0.18	-0.51	0.08	-0.08	0.1	0.04	0.03	-0.15
Gas Flow Rate	l/hr	-0.2	<0.1	-0.2	<0.1	-0.4	-0.5	<0.1	-0.1	-0.2	<0.1	0.2	<0.1
Comments				Casing cracked	Casing cracked.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV249

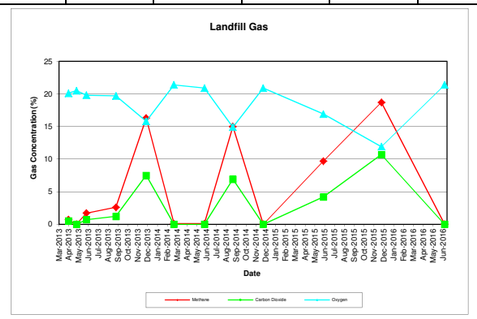
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	14:05	12:10	12:53	12:10	14:35	13:06	14:13	12:17	12:18	13:28	12:43	14:01
Methane	% vol	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
Oxygen	% vol	20.6	20.6	20.7	21	21.1	21.4	20.8	20.8	21	20.1	21.6	20.8
Atmospheric Pressure	mbars	999	993	1009	1010	1014	1005	1010	1011	1006	1007	1003	1004
Gas Pressure	mbars	-0.02	-0.06	-0.05	-0.06	-0.02	-0.07	0.1	-0.07	0.16	0.08	<0.01	-0.12
Gas Flow Rate	l/hr	-0.3	-0.1	0.1	<0.1	0.1	0.2	<0.1	-0.1	-0.1	<0.1	0.3	0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV250**

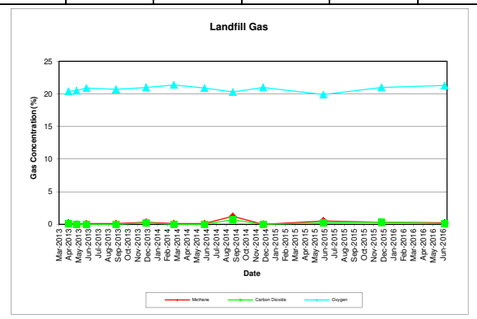
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	14:09	12:02	14:48	13:52	14:40	13:11	14:32	12:21	14:01	14:53	13:42	14:22
Methane	% vol	0.7	<0.1	1.7	2.6	16.3	0.1	0.1	15	<0.1	9.7	18.7	<0.1
Carbon Dioxide	% vol	0.5	<0.1	0.7	1.2	7.5	<0.1	<0.1	6.9	<0.1	4.2	10.7	<0.1
Oxygen	% vol	20.1	20.5	19.8	19.7	15.8	21.4	20.9	14.9	20.9	16.9	11.9	21.4
Atmospheric Pressure	mbars	998	993	1009	1010	1014	1005	1010	1011	1009	1007	1001	1006
Gas Pressure	mbars	-0.14	-0.07	-0.25	0.03	-0.03	<0.01	0.07	-0.08	0.16	-0.11	0.05	<0.01
Gas Flow Rate	l/hr	-0.1	-0.1	0.5	<0.1	0.1	<0.1	0.1	-0.1	-0.3	<0.1	0.3	<0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV251

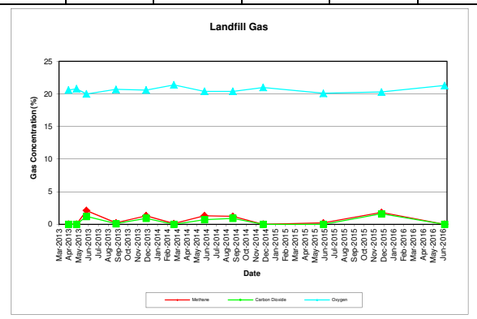
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	14:12	12:05	14:52	13:48	14:48	13:14	14:35	12:24	12:20	14:56	13:45	14:19
Methane	% vol	0.2	<0.1	0.1	0.1	0.3	0.1	0.1	1.2	<0.1	0.5	0.3	0.2
Carbon Dioxide	% vol	0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	0.7	<0.1	0.2	0.3	0.1
Oxygen	% vol	20.4	20.5	20.9	20.7	21	21.4	20.9	20.3	21	19.9	21	21.3
Atmospheric Pressure	mbars	999	993	1008	1010	1014	1005	1010	1011	1006	1007	1001	1006
Gas Pressure	mbars	0.09	-0.17	-0.25	-0.01	-0.28	-0.13	0.03	-0.05	0.21	-0.17	0.12	<0.01
Gas Flow Rate	l/hr	-0.6	0.7	<0.1	<0.1	0.1	0.3	<0.1	-0.1	<0.1	<0.1	0.3	<0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV252

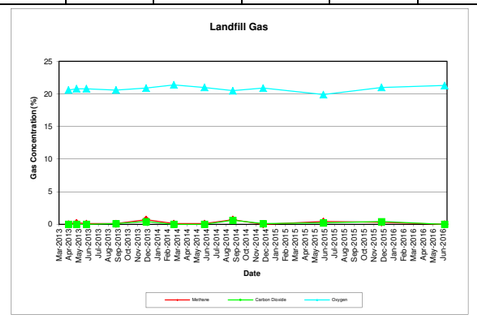
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	14:16	14:45	14:56	13:45	14:52	13:17	14:38	12:28	12:23	14:59	13:49	14:17
Methane	% vol	<0.1	<0.1	2.1	0.2	1.3	0.1	1.3	1.2	<0.1	0.2	1.8	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	1.2	0.1	0.9	<0.1	0.7	0.9	<0.1	<0.1	1.6	<0.1
Oxygen	% vol	20.6	20.8	20	20.7	20.6	21.4	20.4	20.4	21	20.1	20.3	21.3
Atmospheric Pressure	mbars	999	993	1008	1010	1014	1005	1010	1011	1006	1007	1001	1006
Gas Pressure	mbars	-0.04	-0.22	-0.51	<0.01	0.65	0.01	0.1	-0.05	0.2	-0.1	-0.03	<0.01
Gas Flow Rate	l/hr	-0.1	<0.1	0.6	0.1	-0.3	-0.2	<0.1	-0.1	<0.1	<0.1	0.2	0.1
Comments				Casing cracked									



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV253

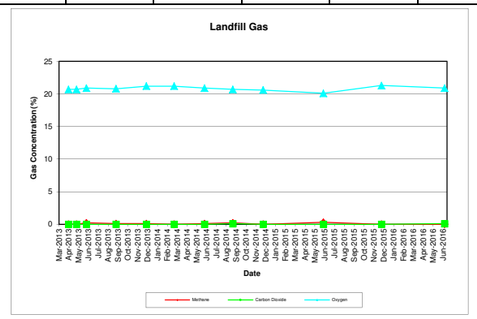
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	11/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	14:20	14:42	15:00	13:42	14:56	13:19	14:41	12:31	12:25	15:02	13:53	14:14
Methane	% vol	<0.1	0.2	0.1	0.1	0.7	0.1	0.1	0.7	<0.1	0.4	0.3	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	0.1	0.4	<0.1	<0.1	0.6	0.1	0.2	0.4	<0.1
Oxygen	% vol	20.6	20.8	20.8	20.6	20.9	21.4	21	20.5	20.9	19.9	21	21.3
Atmospheric Pressure	mbars	999	993	1008	1011	1015	1005	1010	1011	1006	1007	1001	1006
Gas Pressure	mbars	-0.2	-0.16	-0.23	<0.01	-0.05	-0.19	0.07	-0.08	0.18	-0.18	0.02	<0.01
Gas Flow Rate	l/hr	-0.2	<0.1	<0.1	0.1	-1.1	0.1	-0.1	-0.1	<0.1	-0.1	0.3	-0.1
Comments		Vent needs replacing	Vent needs replacing	Casing cracked	Casing Cracked.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV254**

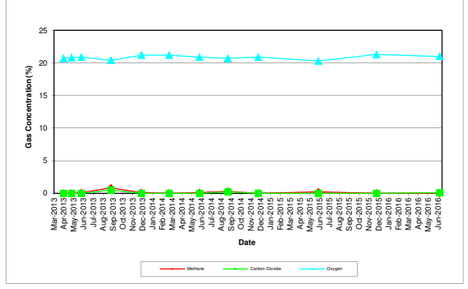
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	12/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	14:23	14:35	15:08	14:04	09:59	14:51	14:45	12:38	13:55	15:05	13:57	14:09
Methane	% vol	<0.1	<0.1	0.2	0.1	0.1	<0.1	0.1	0.2	<0.1	0.3	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1
Oxygen	% vol	20.7	20.7	20.9	20.8	21.2	21.2	20.9	20.7	20.6	20.1	21.3	20.9
Atmospheric Pressure	mbars	999	993	1008	1011	1006	1008	1011	1011	1009	1007	1001	1004
Gas Pressure	mbars	-0.2	-0.17	-0.28	0.02	-0.24	-0.45	0.11	-0.07	0.15	-0.11	0.05	-0.05
Gas Flow Rate	l/hr	<0.1	0.1	<0.1	0.1	<0.1	0.8	<0.1	-0.1	<0.1	<0.1	0.2	-0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV255

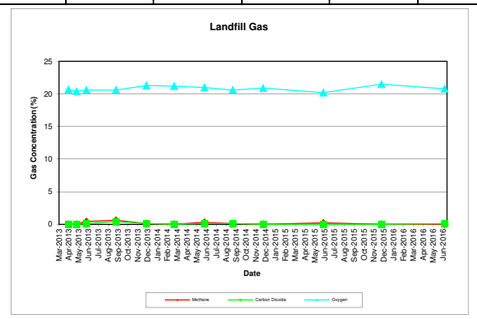
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	12/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	14:27	14:38	15:21	14:07	10:02	14:35	14:48	12:35	12:28	15:17	14:01	14:13
Methane	% vol	<0.1	<0.1	0.1	0.8	0.1	<0.1	0.1	0.3	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	0.5	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.1
Oxygen	% vol	20.7	20.8	20.9	20.4	21.2	21.2	20.9	20.7	20.9	20.3	21.3	21
Atmospheric Pressure	mbars	999	993	1009	1010	1006	1008	1011	1011	1007	1007	1001	1004
Gas Pressure	mbars	-0.17	-0.17	-0.21	<0.01	-0.28	<0.01	0.07	-0.07	0.2	-0.1	0.12	-0.07
Gas Flow Rate	l/hr	-0.2	0.2	-0.1	0.1	-0.1	0.2	<0.1	-0.1	-0.1	<0.1	0.3	<0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV256

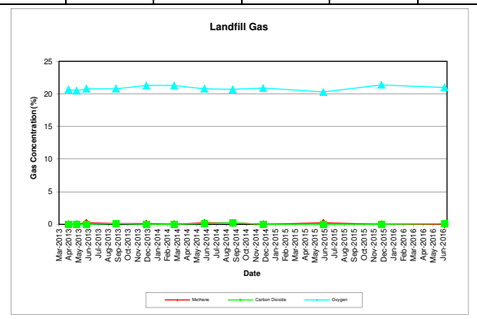
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	12/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	14:31	14:12	15:50	14:30	10:29	14:42	15:11	13:50	12:49	15:28	14:27	14:43
Methane	% vol	<0.1	<0.1	0.4	0.6	0.1	<0.1	0.3	0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	0.1	0.4	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.1
Oxygen	% vol	20.7	20.4	20.6	20.6	21.3	21.2	21	20.6	20.9	20.2	21.5	20.8
Atmospheric Pressure	mbars	999	994	1009	1010	1007	1008	1011	1012	1007	1007	1001	1005
Gas Pressure	mbars	-0.03	-0.16	-0.37	-0.08	-0.06	-0.05	<0.01	<0.01	0.32	-0.14	0.07	0.02
Gas Flow Rate	l/hr	-0.4	0.2	0.5	<0.1	0.1	<0.1	<0.1	<0.1	-0.2	<0.1	0.4	-0.2
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV257**

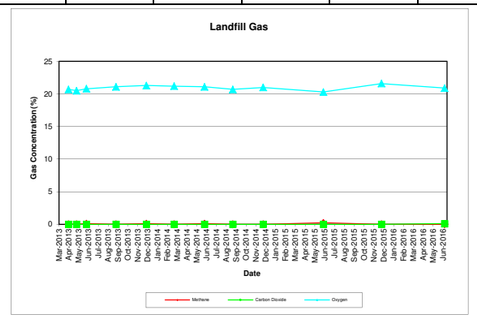
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	12/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	14:37	14:23	15:24	14:10	10:06	14:31	14:51	12:42	12:31	15:20	14:04	14:15
Methane	% vol	<0.1	<0.1	0.2	0.1	0.1	<0.1	0.2	0.2	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	0.2	<0.1	<0.1	<0.1	0.1
Oxygen	% vol	20.7	20.5	20.8	20.8	21.3	21.3	20.8	20.7	20.9	20.3	21.4	21
Atmospheric Pressure	mbars	999	993	1009	1010	1006	1008	1011	1011	1007	1007	1001	1003
Gas Pressure	mbars	-0.14	-0.2	-0.34	-0.03	-0.13	-0.12	0.13	-0.05	0.09	<0.01	0.12	-0.05
Gas Flow Rate	l/hr	-0.7	0.2	-0.1	0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	0.3	-0.1
Comments					Gas tap fitting loose.								



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV258**

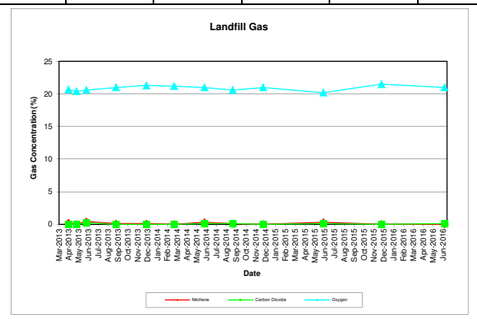
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	12/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	14:40	14:20	15:47	14:36	10:37	14:28	15:16	13:58	12:55	15:22	14:33	14:39
Methane	% vol	<0.1	<0.1	0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	0.2	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
Oxygen	% vol	20.7	20.5	20.8	21.1	21.3	21.2	21.1	20.7	21	20.3	21.6	20.9
Atmospheric Pressure	mbars	1000	993	1009	1010	1007	1008	1011	1012	1008	1007	1000	1005
Gas Pressure	mbars	-0.13	-0.19	-0.37	-0.09	-0.11	-0.01	0.05	-0.01	0.21	-0.13	0.02	-0.02
Gas Flow Rate	l/hr	-0.4	0.3	0.2	<0.1	<0.1	-0.2	-0.2	-0.1	-0.1	<0.1	0.3	-0.1
Comments		Loose tap - needs replacing	Loose tap - needs replacing	gas tap requires replacing									



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV259

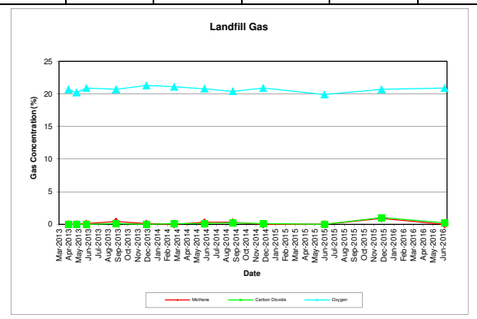
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	12/12/13	07/03/14	09/06/14	05/09/14	08/12/14	12/06/15	09/12/15	21/06/16
Time of measurement	-	14:45	14:16	15:43	14:33	10:34	14:25	15:14	13:53	12:52	15:25	14:30	14:35
Methane	% vol	0.2	<0.1	0.4	0.1	0.1	<0.1	0.3	0.1	<0.1	0.3	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.1	<0.1	0.1
Oxygen	% vol	20.7	20.4	20.6	21	21.3	21.2	21	20.6	21	20.2	21.5	21
Atmospheric Pressure	mbars	1000	994	1009	1010	1007	1008	1011	1012	1008	1007	1000	1005
Gas Pressure	mbars	0.47	-0.16	-0.14	-0.12	-0.15	<0.01	0.05	-0.02	0.1	-0.17	0.12	-0.05
Gas Flow Rate	l/hr	-0.4	0.2	0.1	-0.1	<0.1	0.6	<0.1	-0.1	<0.1	<0.1	0.4	-0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV260

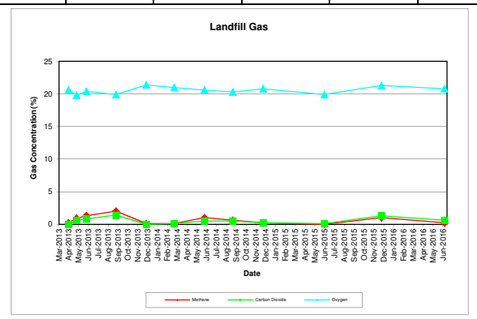
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	12/12/13	07/03/14	09/06/14	05/09/14	08/12/14	15/06/15	09/12/15	21/06/16
Time of measurement	-	14:48	13:56	15:27	14:13	10:09	14:08	14:54	13:32	12:34	10:47	14:08	14:19
Methane	% vol	<0.1	<0.1	0.1	0.4	0.1	<0.1	0.3	0.3	<0.1	<0.1	0.9	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1	0.2	0.1	<0.1	1	0.2
Oxygen	% vol	20.7	20.2	20.9	20.7	21.3	21.1	20.8	20.4	20.9	19.9	20.7	20.9
Atmospheric Pressure	mbars	999	994	1009	1010	1006	1008	1011	1013	1007	1017	1001	1005
Gas Pressure	mbars	-0.3	-0.22	-0.25	-0.09	-0.17	0.16	0.09	-0.05	0.25	0.12	-0.02	-0.09
Gas Flow Rate	l/hr	-0.5	0.1	-0.1	0.1	<0.1	0.8	<0.1	<0.1	0.1	-0.1	0.4	-0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV261

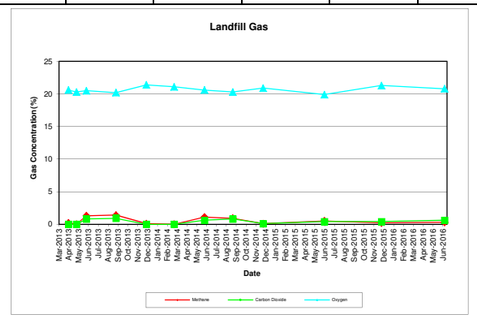
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	12/12/13	07/03/14	09/06/14	05/09/14	08/12/14	15/06/15	09/12/15	21/06/16
Time of measurement	-	14:53	14:00	15:34	14:15	10:17	14:15	15:01	13:39	12:39	10:51	14:15	14:26
Methane	% vol	0.2	0.9	1.3	2	0.1	0.1	1	0.6	0.2	<0.1	1	0.2
Carbon Dioxide	% vol	<0.1	0.6	0.8	1.4	<0.1	0.1	0.5	0.5	0.2	0.1	1.3	0.6
Oxygen	% vol	20.6	19.8	20.4	19.9	21.4	21	20.6	20.3	20.8	19.9	21.3	20.8
Atmospheric Pressure	mbars	1000	994	1009	1010	1007	1008	1011	1013	1008	1017	1001	1005
Gas Pressure	mbars	0.07	-0.17	-0.43	-0.03	-0.11	-11	0.07	-0.02	0.2	0.13	0.1	-0.09
Gas Flow Rate	l/hr	-0.2	0.1	0.3	<0.1	<0.1	0.1	-0.1	<0.1	0.1	-0.1	0.5	-0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV262

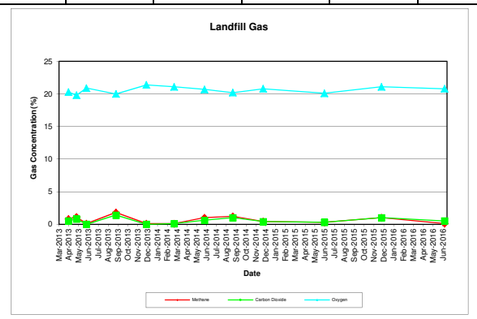
Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	12/12/13	07/03/14	09/06/14	05/09/14	08/12/14	15/06/15	09/12/15	21/06/16
Time of measurement	-	14:57	14:05	15:37	14:22	10:20	14:18	15:04	13:41	12:42	10:55	14:18	14:29
Methane	% vol	0.2	<0.1	1.3	1.4	0.1	<0.1	1.1	0.9	0.1	0.5	0.2	0.3
Carbon Dioxide	% vol	<0.1	<0.1	0.8	0.9	<0.1	<0.1	0.6	0.8	0.1	0.4	0.4	0.6
Oxygen	% vol	20.6	20.3	20.5	20.2	21.4	21.1	20.6	20.3	20.9	19.9	21.3	20.8
Atmospheric Pressure	mbars	999	994	1009	1011	1006	1008	1011	1012	1007	1017	1000	1005
Gas Pressure	mbars	-0.09	-0.11	-0.33	-0.06	-0.19	-0.14	0.06	-0.01	0.21	0.1	0.03	-0.09
Gas Flow Rate	l/hr	-0.1	0.3	0.1	0.2	<0.1	-0.2	-0.2	<0.1	0.1	<0.1	0.4	-0.1
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	**GV263**

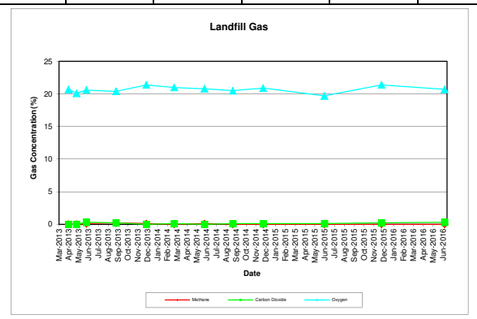
Determinand	**Units**												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	12/12/13	07/03/14	09/06/14	05/09/14	08/12/14	15/06/15	09/12/15	21/06/16
Time of measurement	-	15:05	14:08	15:40	14:25	10:24	14:21	15:07	13:44	12:44	10:58	14:23	14:31
Methane	% vol	0.8	1.1	0.1	1.8	0.1	0.1	1	1.2	0.4	0.3	1	0.1
Carbon Dioxide	% vol	0.5	0.8	<0.1	1.4	<0.1	0.1	0.6	1	0.4	0.3	1	0.5
Oxygen	% vol	20.3	19.8	20.9	20	21.4	21.1	20.7	20.2	20.8	20.1	21.1	20.8
Atmospheric Pressure	mbars	1000	994	1009	1010	1007	1008	1011	1012	1007	1017	1000	1005
Gas Pressure	mbars	-0.14	-0.07	-0.56	-0.06	-0.09	-0.02	-0.02	-0.01	0.19	0.1	0.09	-0.03
Gas Flow Rate	l/hr	-0.2	0.1	0.6	<0.1	0.1	-0.5	<0.1	<0.1	<0.1	<0.1	0.3	-0.3
Comments													



Ness Farm Landfill
Gas Vent Field Monitoring Data
(GV144 - GV197)

Sampling Location	GV264

Determinand	Units												
Date monitored	-	15/04/13	10/05/13	10/06/13	09/09/13	12/12/13	07/03/14	09/06/14	05/09/14	08/12/14	15/06/15	09/12/15	21/06/16
Time of measurement	-	15:11	13:53	15:30	14:18	10:13	14:12	14:57	13:36	12:36	10:42	14:11	14:22
Methane	% vol	<0.1	<0.1	0.1	0.2	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbon Dioxide	% vol	<0.1	<0.1	0.3	0.2	<0.1	0.1	<0.1	0.1	0.1	0.1	0.2	0.3
Oxygen	% vol	20.7	20.1	20.6	20.4	21.4	21	20.8	20.5	20.9	19.7	21.4	20.7
Atmospheric Pressure	mbars	999	995	1009	1010	1006	1008	1011	1012	1007	1018	1001	1005
Gas Pressure	mbars	-0.13	-0.14	-0.17	0.01	-0.11	<0.01	0.12	<0.01	0.22	0.09	<0.01	-0.09
Gas Flow Rate	l/hr	-0.2	<0.1	<0.1	<0.1	<0.1	-0.1	<0.1	<0.1	-0.2	<0.1	0.2	-0.1
Comments													



APPENDIX C:

C12 – Settlement Monitoring Data

Ness Farm Landfill
Settlement Monitoring
Phase 1

	Settlement Monitoring Point	Easting	Northing	Level							Level Difference 2009-2010 (m)	Level Difference 2010-2011 (m)	Level Difference 2011-2012 (m)	Level Difference 2012-2014 (m)	Level Difference 2014-2015 (m)	Level Difference 2014-2015 (m)	Total Level Difference (m)
				23/11/2009	21/10/2010	14/09/2011	19/10/2012	18/03/2014	01/03/2015	12/05/2016							
PHASE 1	MP0	396409.18	803780.89	-	64.86	64.829	64.838	64.817	64.825	64.763	-	-0.031	0.009	-0.021	0.008	-0.062	0.097
	MP1	396376.49	803845.01	66.25	66.23	66.167	66.162	66.131	65.71	-	-0.022	-0.061	-0.005	-0.031	-0.421	-	0.540
	MP2	396469.32	803899.87	61.71	61.61	61.602	-	-	61.624	-	-0.096	-0.012	-	-	-	-	0.086
	MP3	396348.91	803722.79	65.29	65.24	65.205	65.215	-	65.211	65.205	-0.052	-0.030	0.010	-	-	-0.006	0.082
	MP4	396469.96	803839.00	61.73	61.64	61.588	61.558	61.568	61.493	61.455	-0.096	-0.049	-0.030	0.010	-0.075	-0.038	0.278
	MP5	396488.18	803732.68	60.57	60.46	60.461	60.46	60.442	60.421	60.389	-0.109	0.002	-0.001	-0.018	-0.021	-0.032	0.179
	MP6	396608.90	803793.18	51.55	51.51	51.483	51.49	-	51.265	-	-0.037	-0.027	0.007	-	-	-	0.282
	MP7	396321.41	803614.05	55.52	55.47	55.414	55.344	55.399	55.364	55.376	-0.054	-0.056	-0.070	0.055	-0.035	0.012	0.148
	MP8	396335.42	803597.95	54.81	54.76	54.708	54.715	54.708	54.692	54.685	-0.048	-0.052	0.007	-0.007	-0.016	-0.007	0.123
	MP9	396386.11	803629.59	60.21	60.13	60.063	60.04	60.024	59.986	59.967	-0.077	-0.069	-0.023	-0.016	-0.038	-0.019	0.242
	MP10	396470.81	803634.02	56.82	56.71	56.653	56.638	56.615	56.564	56.545	-0.109	-0.056	-0.015	-0.023	-0.051	-0.019	0.273
	MP11	396601.18	803685.46	44.93	44.88	44.851	44.86	44.856	-	44.806	-0.049	-0.027	0.009	-0.004	-	-	0.121
	MP12	396455.37	803591.75	55.57	55.47	55.444	55.443	55.412	55.391	55.363	-0.099	-0.023	-0.001	-0.031	-0.021	-0.028	0.203
	MP13	396421.74	803544.82	48.04	47.99	47.94	47.945	-	-	-	-0.050	-0.051	0.005	-	-	-	0.096
	MP14	396520.83	803555.67	41.31	41.29	41.247	41.257	41.272	41.262	41.258	-0.023	-0.039	0.010	0.015	-0.010	-0.004	0.051
	MP15	396504.05	803662.05	54.45	54.36	54.302	54.31	54.268	54.232	54.202	-0.089	-0.056	0.008	-0.042	-0.036	-0.030	0.245

Ness Farm Landfill
Settlement Monitoring
Phase 2

	Settlement Monitoring Point	Easting	Northing	Level						Level Difference 2010-2011 (m)	Level Difference 2011-2012 (m)	Level Difference 2012-2014 (m)	Level Difference 2014-2015 (m)	Level Difference 2015-2016 (m)	Total Level Difference (m)
				01/12/2010	14/09/2011	19/10/2012	18/03/2014	01/03/2015	12/05/2016						
PHASE 2	MP16	395964.61	804424.97	14.965	14.929	14.911	14.908	14.818	14.832	-0.036	-0.018	-0.003	-0.090	0.014	0.133
	MP17	396064.34	804431.39	23.455	23.444	23.417	23.406	23.332	23.314	-0.011	-0.027	-0.011	-0.074	-0.018	0.141
	MP18	396164.16	804437.73	27.428	27.385	27.364	27.342	27.274	27.261	-0.043	-0.021	-0.022	-0.068	-0.013	0.167
	MP19	396263.95	804444.09	28.136	28.079	28.027	28.017	27.932	27.903	-0.057	-0.052	-0.010	-0.085	-0.029	0.233
	MP20	396230.91	804403.52	37.988	37.944	37.904	37.901	37.833	37.812	-0.044	-0.040	-0.003	-0.068	-0.021	0.176
	MP21	396333.83	804382.99	40.492	40.429	40.369	40.374	40.255	40.272	-0.063	-0.060	0.005	-0.119	0.017	0.220
	MP22	396469.87	804357.25	36.197	36.168	36.151	36.148	36.094	36.062	-0.029	-0.017	-0.003	-0.054	-0.032	0.135
	MP23	396544.92	804347.42	28.749	28.732	28.735	28.764	28.723	28.705	-0.017	0.003	0.029	-0.041	-0.018	0.044
	MP24	395995.71	804276.36	35.861	35.82	35.816	35.849	35.832	35.814	-0.041	-0.004	0.033	-0.017	-0.018	0.047
	MP25	396070.66	804331.49	40.11	40.054	40.006	39.975	39.931	39.897	-0.056	-0.048	-0.031	-0.044	-0.034	0.213
	MP26	396170.59	804339.51	51.076	51.045	51.001	50.971	50.927	50.872	-0.031	-0.044	-0.030	-0.044	-0.055	0.204
	MP27	396270.34	804344.35	49.977	49.943	49.902	49.883	49.846	49.822	-0.034	-0.041	-0.019	-0.037	-0.024	0.155
	MP28	396368.32	804318.21	52.257	52.188	52.147	52.132	52.125	52.082	-0.069	-0.041	-0.015	-0.007	-0.043	0.175
	MP29	396077.11	804231.80	47.282	47.228	47.216	47.181	47.128	47.072	-0.054	-0.012	-0.035	-0.053	-0.056	0.210
	MP30	396177.04	804238.20	55.584	55.571	55.583	55.521	55.483	55.473	-0.013	0.012	-0.062	-0.038	-0.010	0.111
	MP31	396276.75	804244.64	55.968	55.885	55.848	55.815	55.779	55.713	-0.083	-0.037	-0.033	-0.036	-0.066	0.255
	MP32	396376.50	804251.01	56.466	56.516	56.492	56.434	56.414	56.367	0.050	-0.024	-0.058	-0.020	-0.047	0.149
	MP33	396183.35	804138.44	54.298	54.277	-	-	-	-	-0.021	-	-	-	-	0.142
	MP33A	369186.20	804139.50	-	-	56.172	56.139	56.099	56.051	-	-	-0.033	-0.040	-0.048	

NB. MP32 reinstated 10 March 2012 at elevation of 56.516
NB. MP33 reinstated as 33A during Phase 4

Ness Farm Landfill
Settlement Monitoring
Phase 3

	Settlement Monitoring Point	Easting	Northing	Level					Level Difference 2012-2013 (m)	Level Difference 2013-2014 (m)	Level Difference 2014-2015 (m)	Level Difference 2015-2016 (m)	Total Level Difference (m)
				02/03/2012	31/01/2013	18/03/2014	01/03/2015	12/05/2016					
PHASE 3	MP34	396460.10	804276.60	53.437	53.401	53.385	53.321	53.279	-0.036	-0.016	-0.064	-0.042	0.158
	MP35	396576.20	804263.70	40.189	40.145	40.155	40.13	40.074	-0.044	0.010	-0.025	-0.056	0.115
	MP36	396623.80	804211.20	40.540	40.481	40.494	40.468	40.39	-0.059	0.013	-0.026	-0.078	0.150
	MP37	396682.60	804170.80	35.821	35.769	35.805	35.802	35.74	-0.052	0.036	-0.003	-0.062	0.081
	MP38	396578.10	804161.50	54.673	54.608	54.587	54.523	54.471	-0.065	-0.021	-0.064	-0.052	0.202
	MP39	396482.40	804158.00	57.900	57.784	57.724	57.642	57.577	-0.116	-0.060	-0.082	-0.065	0.323
	MP40	396382.80	804150.70	59.052	missing	missing	missing	missing	-	-	-	-	-
	MP40A	396399.00	804147.20	-	59.013	58.957	58.876	58.851		-0.056	-0.081	-0.025	0.162
	MP41	396489.30	804058.10	59.862	missing	missing	59.654	59.608	-	-	-	-	0.254
	MP41A	396531.50	803993.00	-	60.382	60.371	60.328	60.283	-	-0.011	-0.043	-0.045	0.099
	MP42	396589.40	804058.10	57.094	56.992	56.982	56.928	56.864	-0.102	-0.010	-0.054	-0.064	0.230
	MP43	396659.10	804055.20	54.394	54.292	54.28	54.222	54.16	-0.102	-0.012	-0.058	-0.062	0.234
	MP44	396727.80	804040.40	49.316	49.279	49.301	49.265	49.241	-0.037	0.022	-0.036	-0.024	0.075
	MP45	396727.10	803982.20	52.833	52.81	52.821	52.758	52.734	-0.023	0.011	-0.063	-0.024	0.099

NB. MP40 reinstated as 40A during Phase 4
NB. MP41A added during Phase 4

Ness Farm Landfill
Settlement Monitoring
Phase 4

	Settlement Monitoring Point	Easting	Northing	Level				Level Difference 2013-2014 (m)	Level Difference 2014-2015 (m)	Level Difference 2015-2016 (m)	Total Level Difference (m)
				11/04/2013	18/03/2014	01/03/2015	12/05/2016				
PHASE 4	46	396303.00	803835.20	64.529	64.560	64.553	64.498	0.031	-0.007	-0.055	0.031
	47	396193.10	803898.70	64.512	64.528	64.515	64.476	0.016	-0.013	-0.039	0.036
	48	396180.90	804076.40	60.965	60.973	60.956	60.930	0.008	-0.017	-0.026	0.035
	49	369277.10	803964.90	62.685	62.685	62.667	62.626	0.000	-0.018	-0.041	0.059
	50	396396.50	803942.80	62.878	62.848	62.820	62.773	-0.030	-0.028	-0.047	0.105
	51	396284.70	804058.00	60.199	60.219	60.206	60.170	0.020	-0.013	-0.036	0.029
	52	396256.20	804130.00	55.851	55.856	55.828	55.797	0.005	-0.028	-0.031	0.054
	54	396374.80	804117.50	59.545	59.534	59.491	59.433	-0.011	-0.043	-0.058	0.112
	57	396584.70	803887.00	57.763	57.768	57.729	57.705	0.005	-0.039	-0.024	0.058
	58	396630.40	803888.10	57.186	57.199	57.171	57.157	0.013	-0.028	-0.014	0.029
	59	396722.40	803911.90	53.396	53.436	53.399	53.369	0.040	-0.037	-0.030	0.027
	60	396498.30	803967.10	60.821	60.772	60.752	60.667	-0.049	-0.020	-0.085	0.154

APPENDIX D:

GAS MONITORING GRAPHS

D1 – Ness Farm Area of Ness Farm Landfill Monitoring Graphs

D2 – Tullos Hill Area of Ness Farm Landfill Monitoring Graphs

APPENDIX D:

D1 – Ness Farm Area of Ness Farm Landfill Monitoring Graphs

Figure 1
Internal Wells - Average Methane

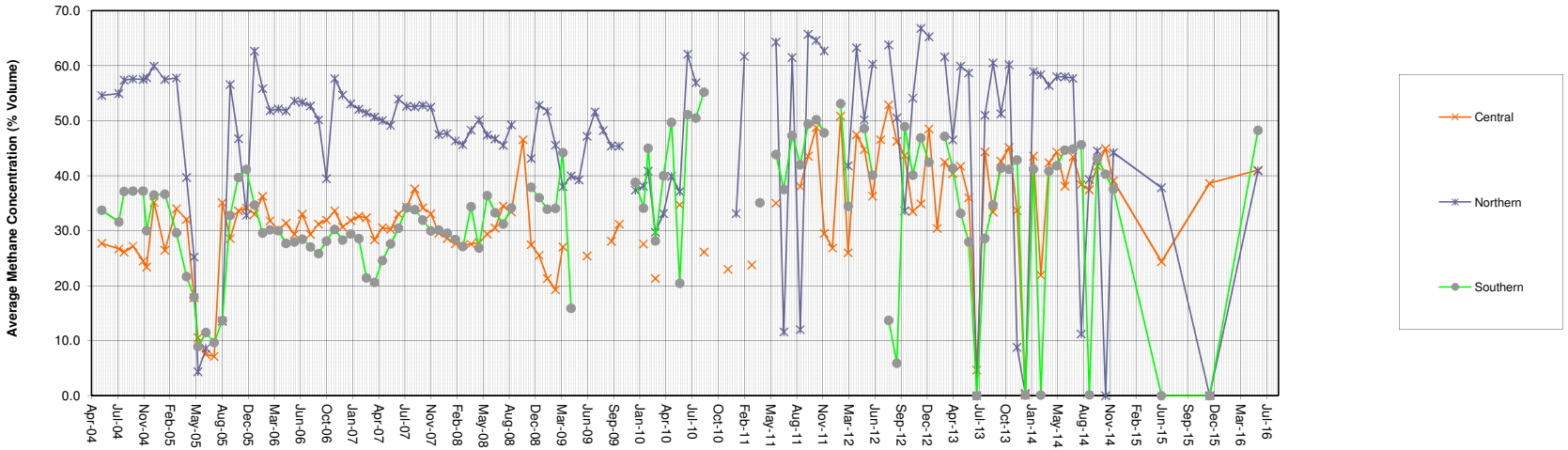


Figure 2
Internal Wells - Average Carbon Dioxide

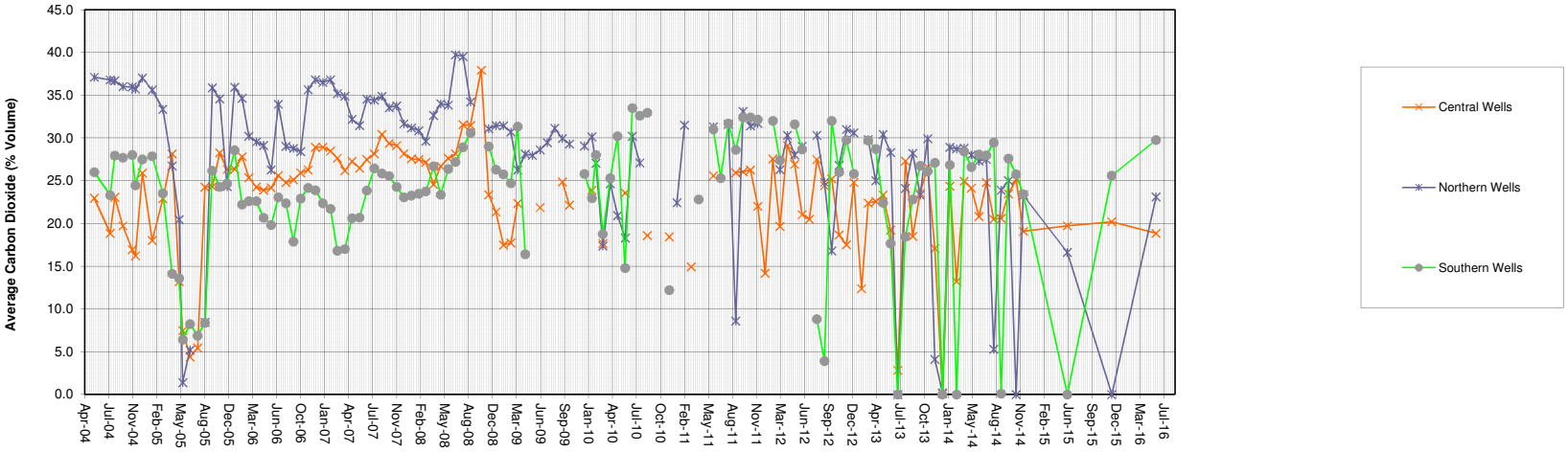


Figure 3
Internal Wells - Methane

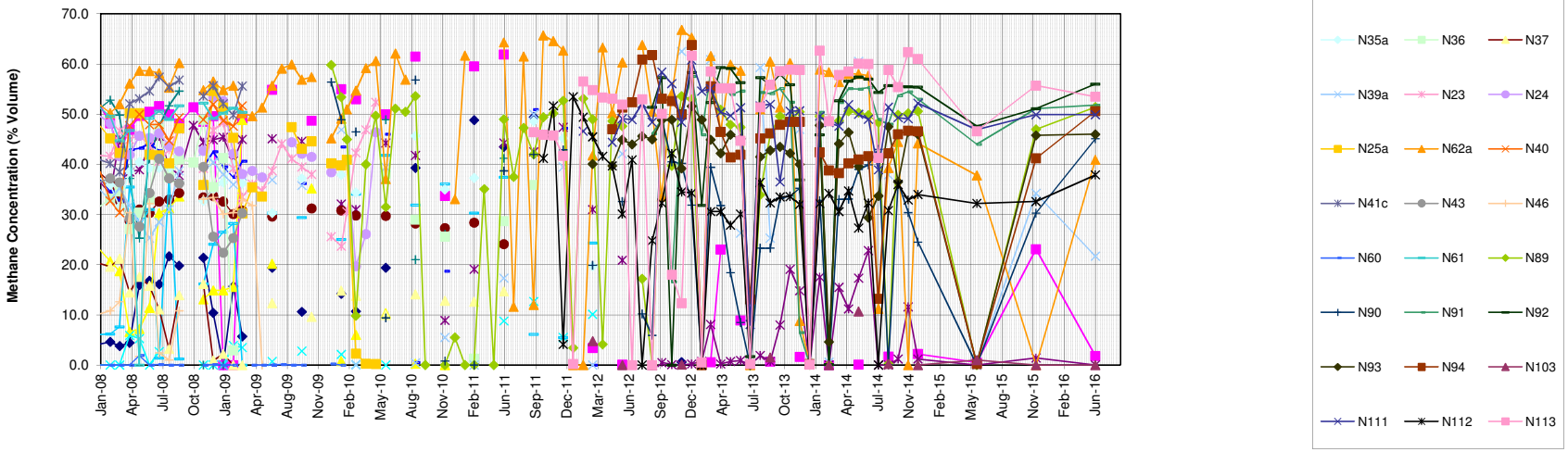


Figure 4
Internal Wells - Carbon Dioxide

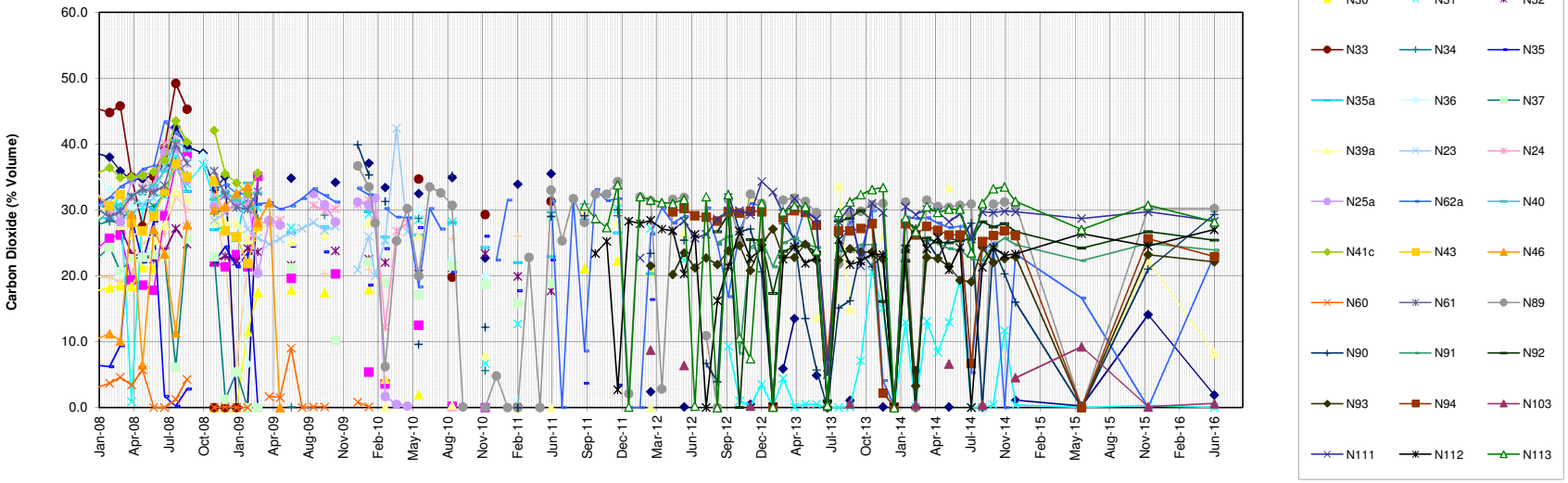


Figure 5
External Wells (North) - Average Methane

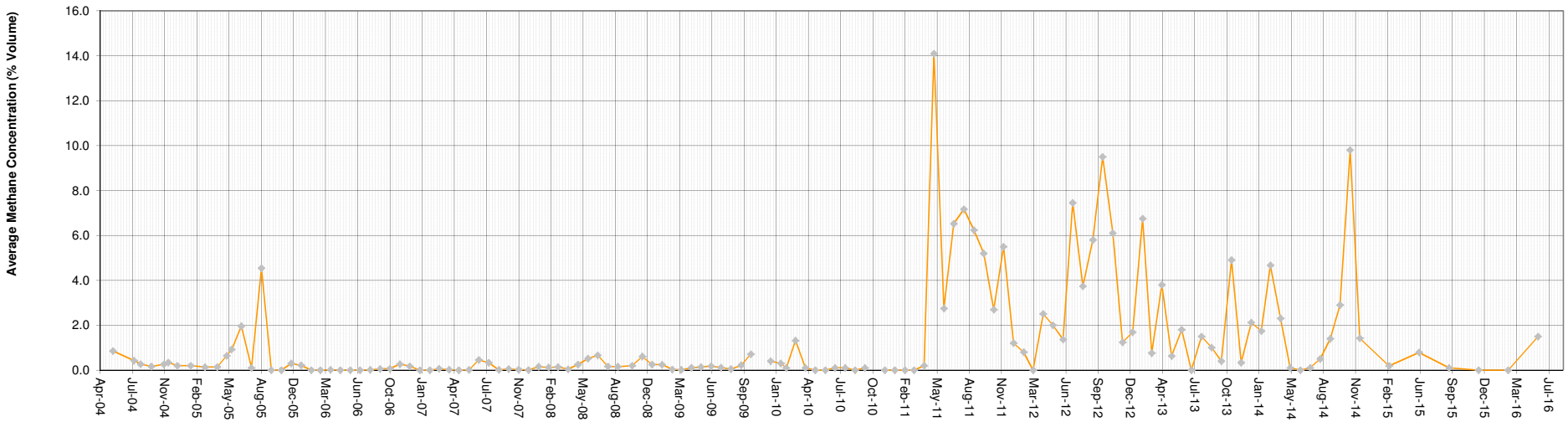


Figure 6
External Wells (North) - Average Carbon Dioxide

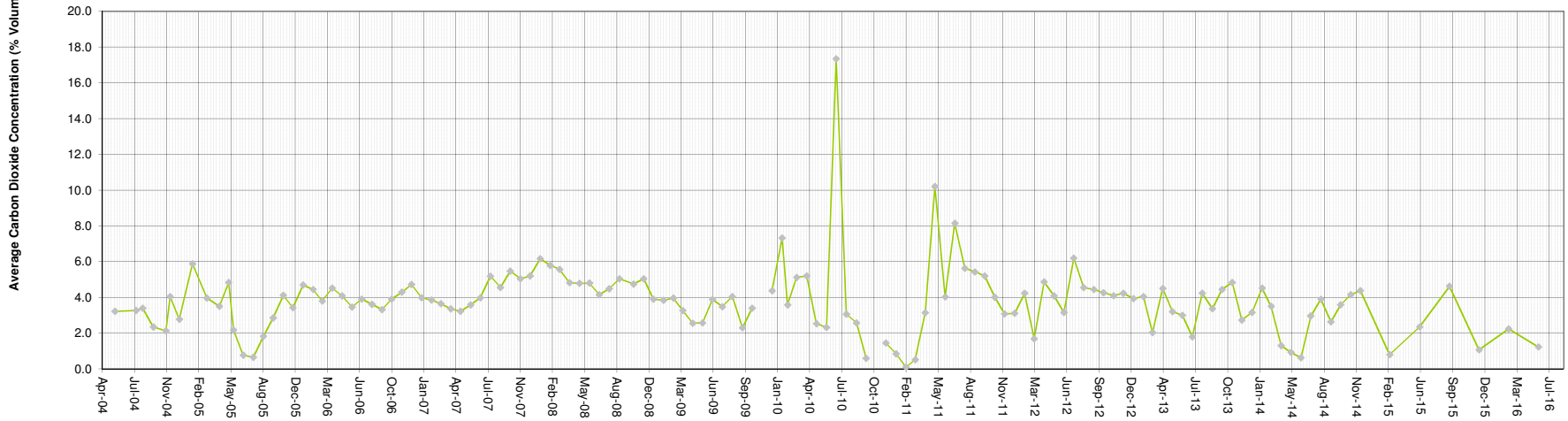


Figure 7
External Wells (North) - Methane

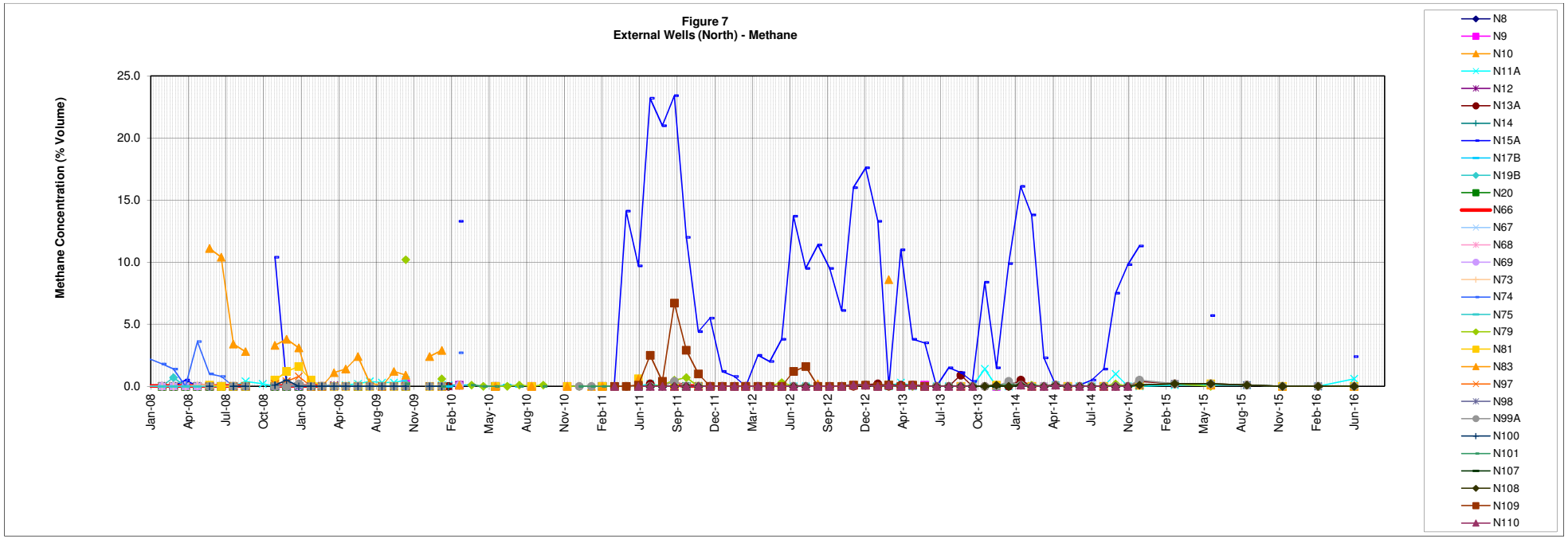


Figure 8
External Wells (North) - Carbon Dioxide

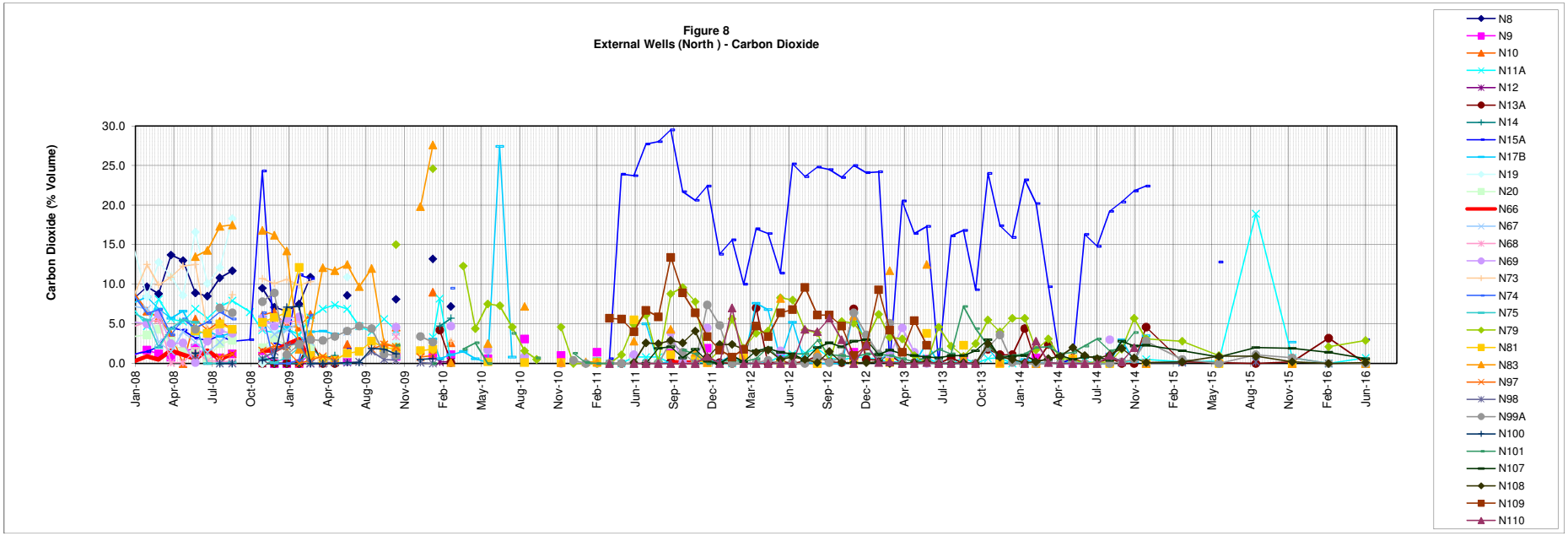


Figure 9
External Wells (South) - Average Methane

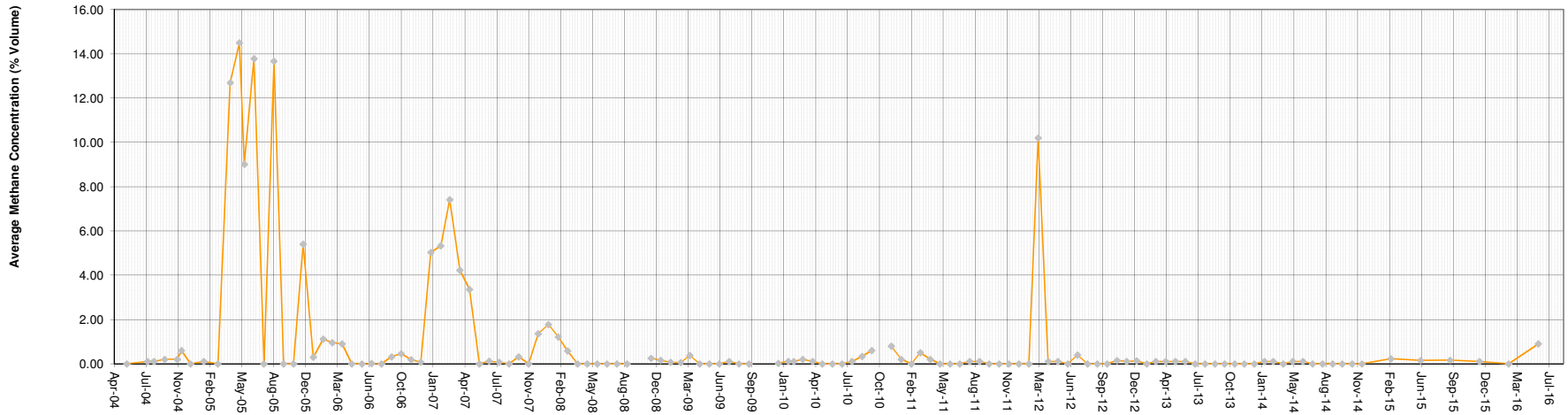


Figure 10
External Wells (South) - Average Carbon Dioxide

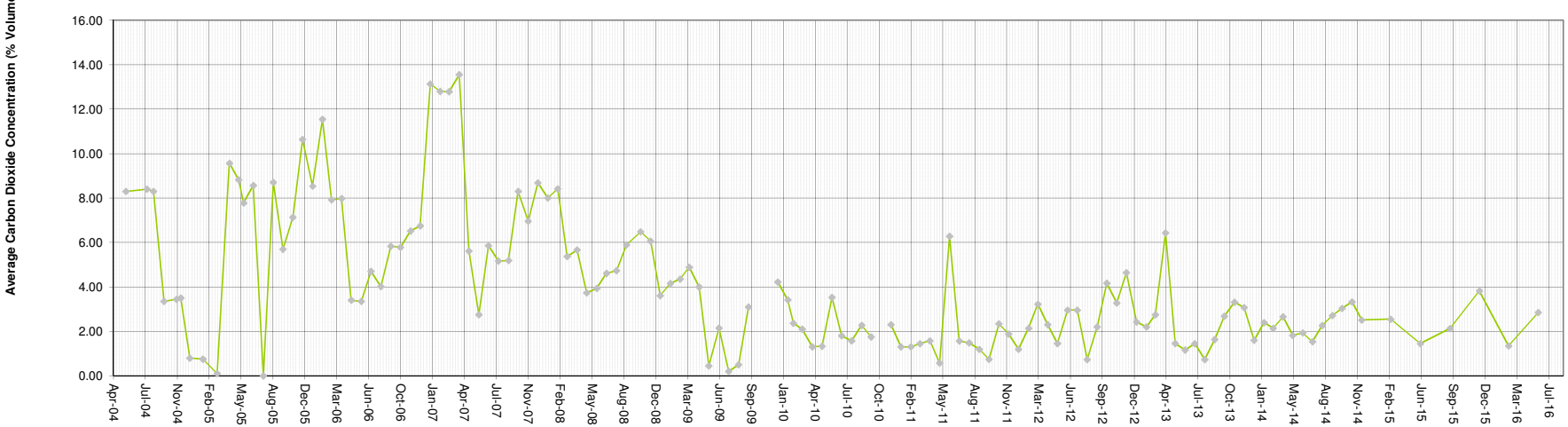


Figure 11
External Wells (South) - Methane

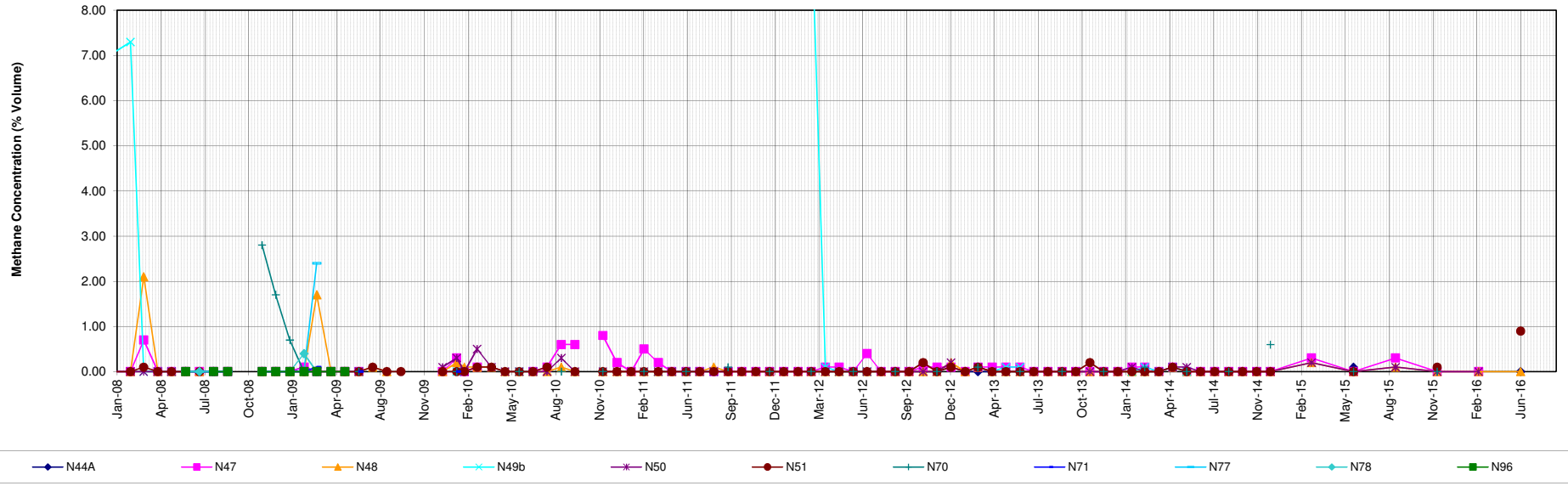


Figure 12
External Wells (South) - Carbon Dioxide

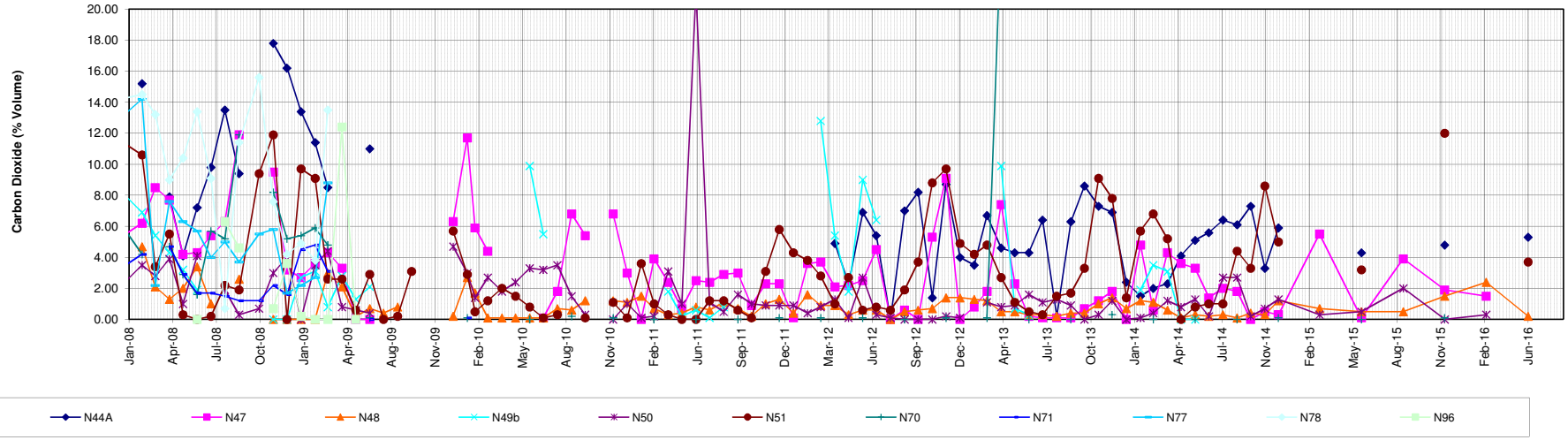


Figure 13
External Wells (East) - Average Methane

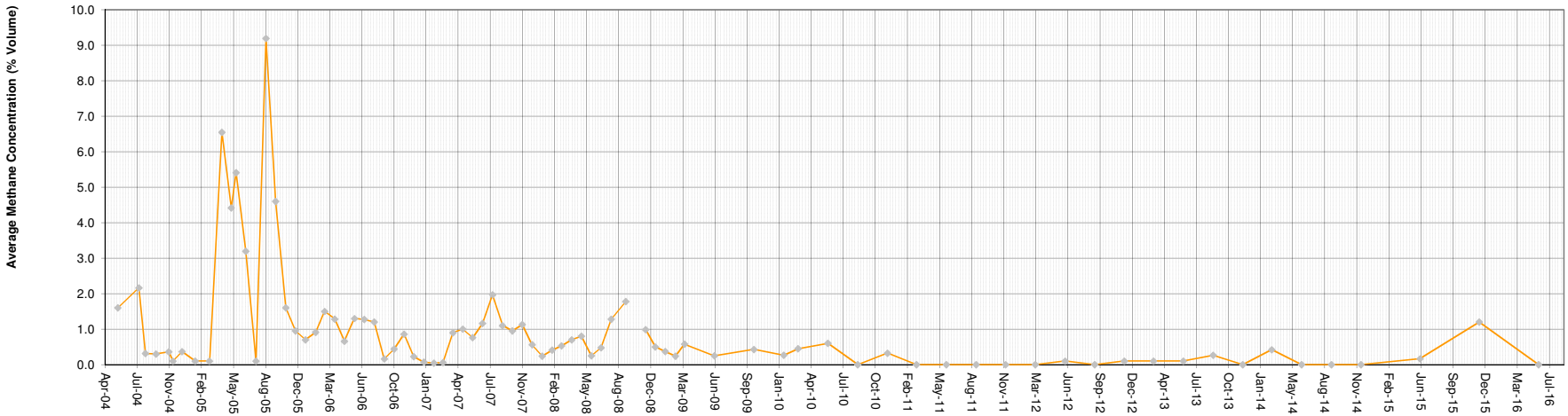


Figure 14
External Wells (East) - Average Carbon Dioxide

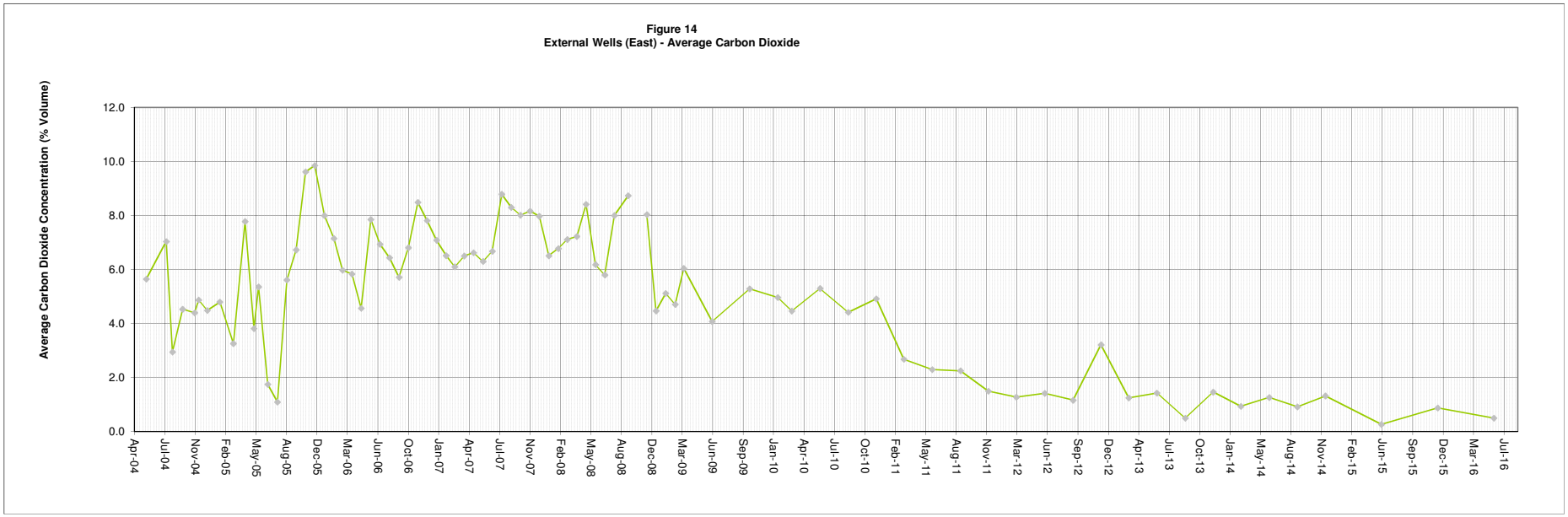


Figure 15
External Wells (East) - Methane

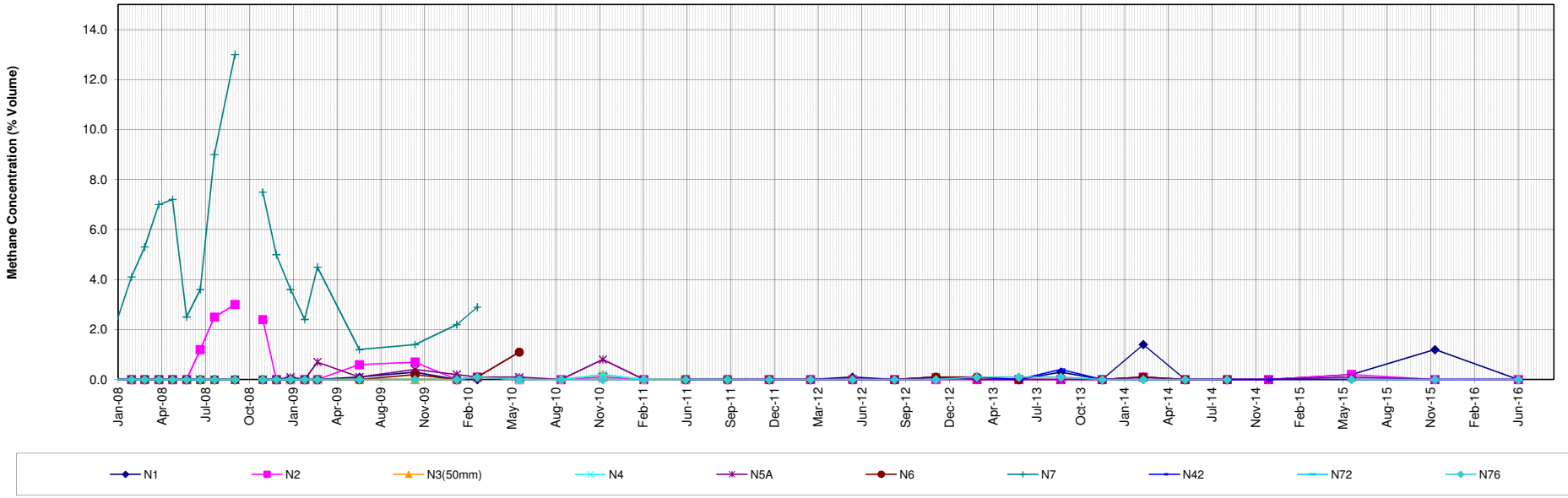


Figure 16
External Wells (East) - Carbon Dioxide

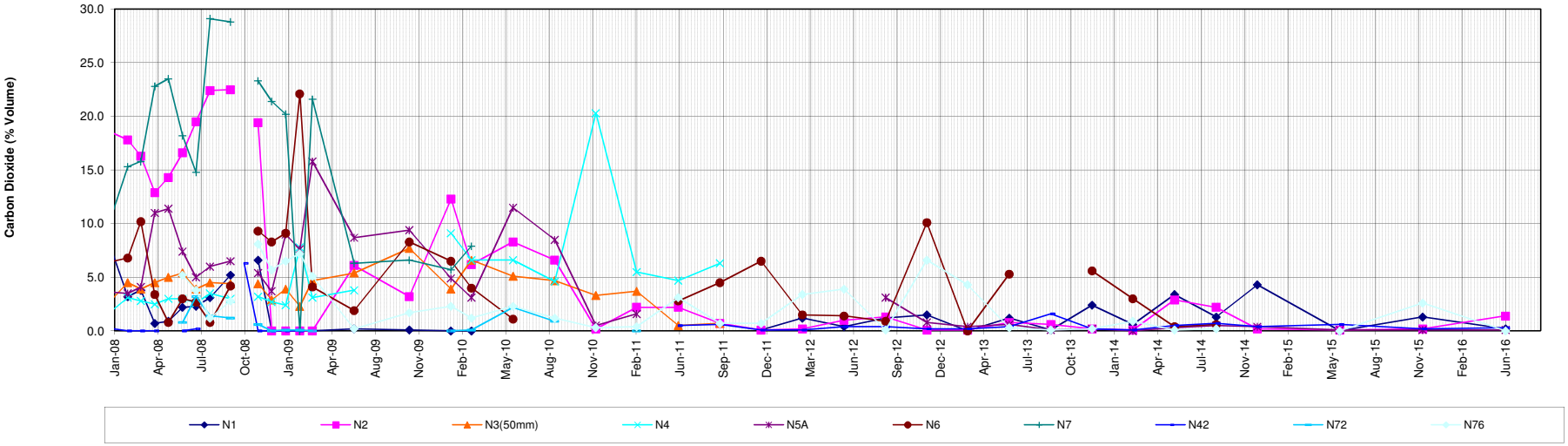


Figure 17
External Wells (West) - Average Methane

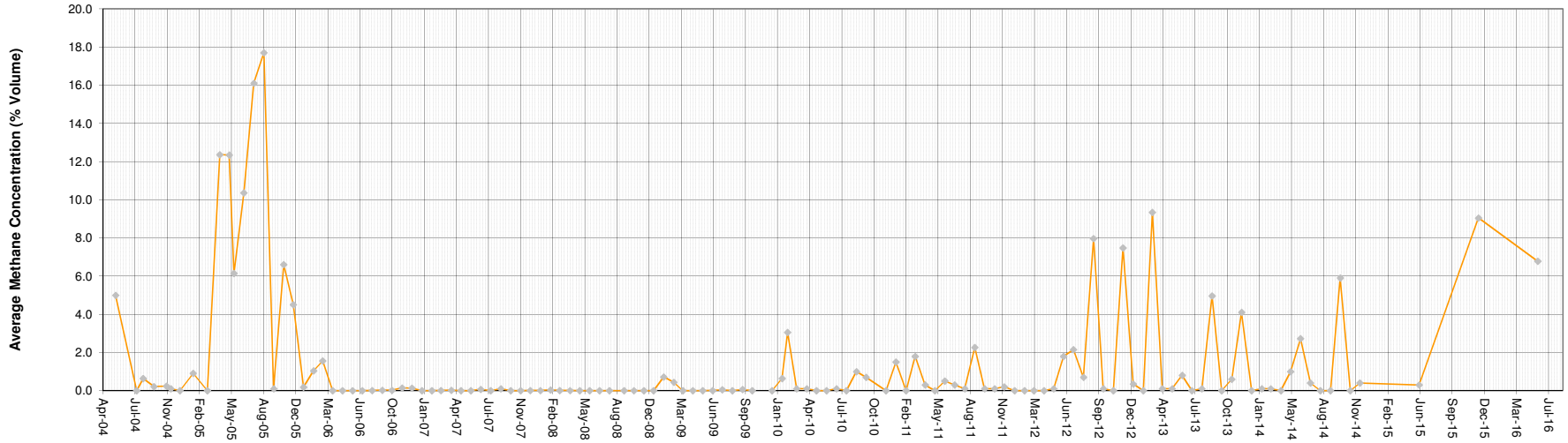


Figure 18
External Wells (West) - Average Carbon Dioxide

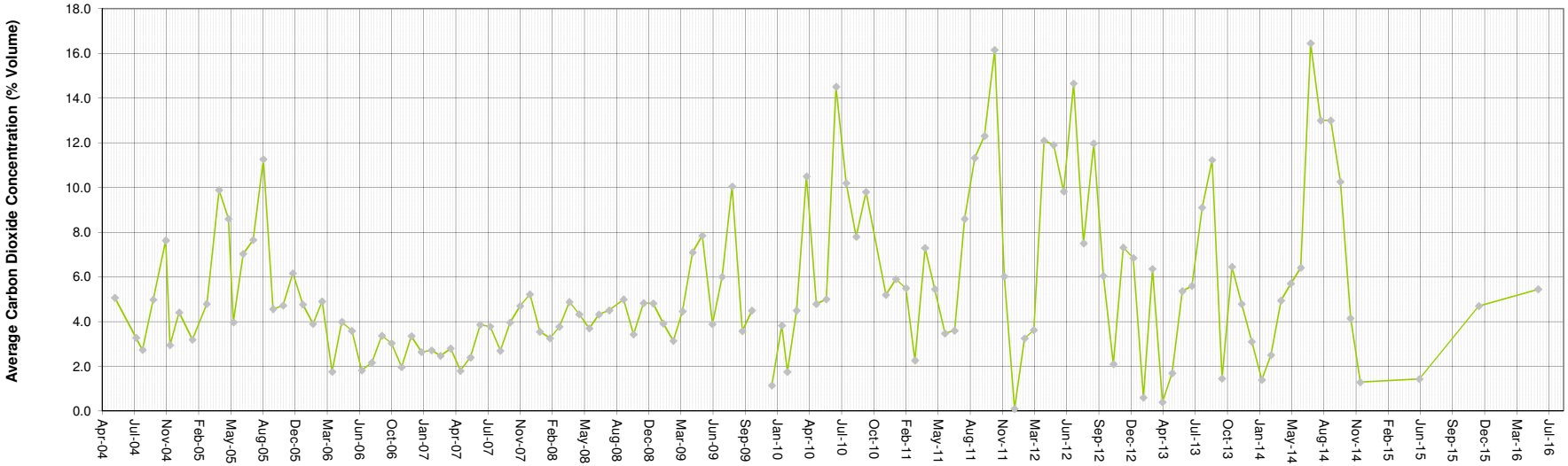


Figure 19
External Wells (West) - Methane

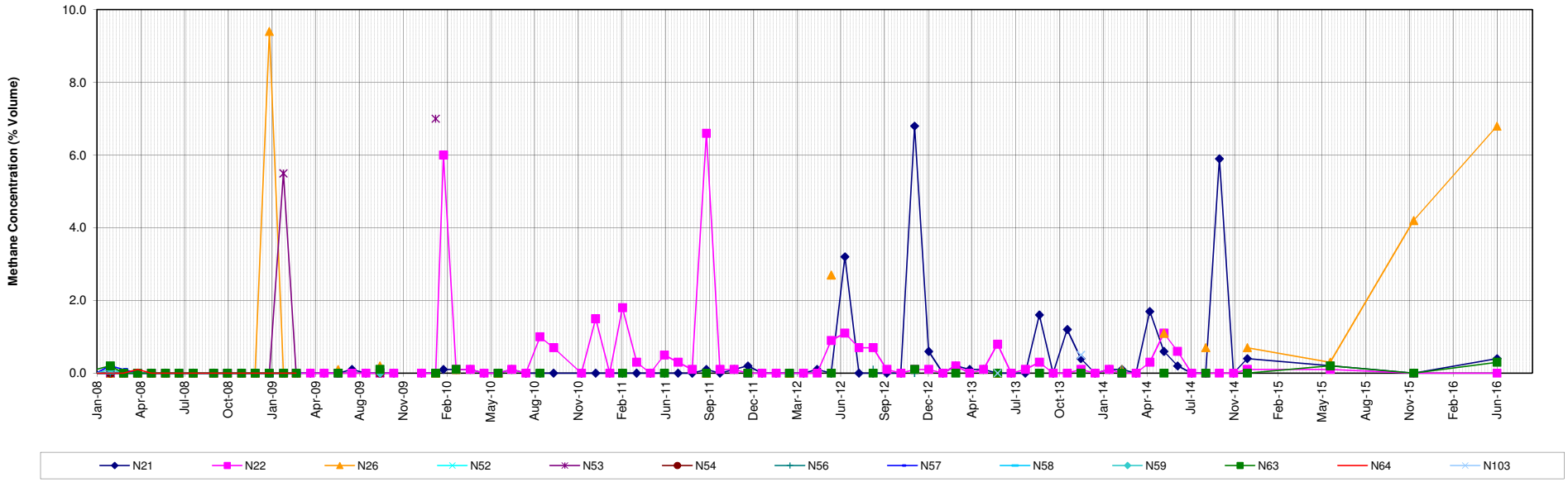
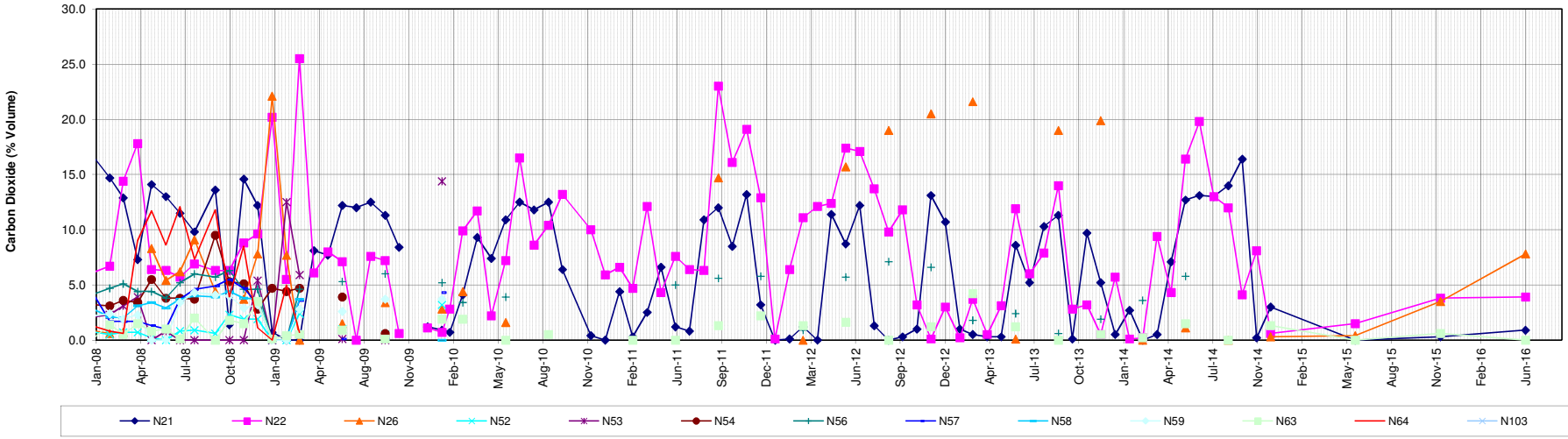


Figure 20
External Wells (West) - Carbon Dioxide



APPENDIX D:

D2 – Tullos Hill Area of Ness Farm Landfill Monitoring Graphs

Figure 21
Internal Wells - Average Methane

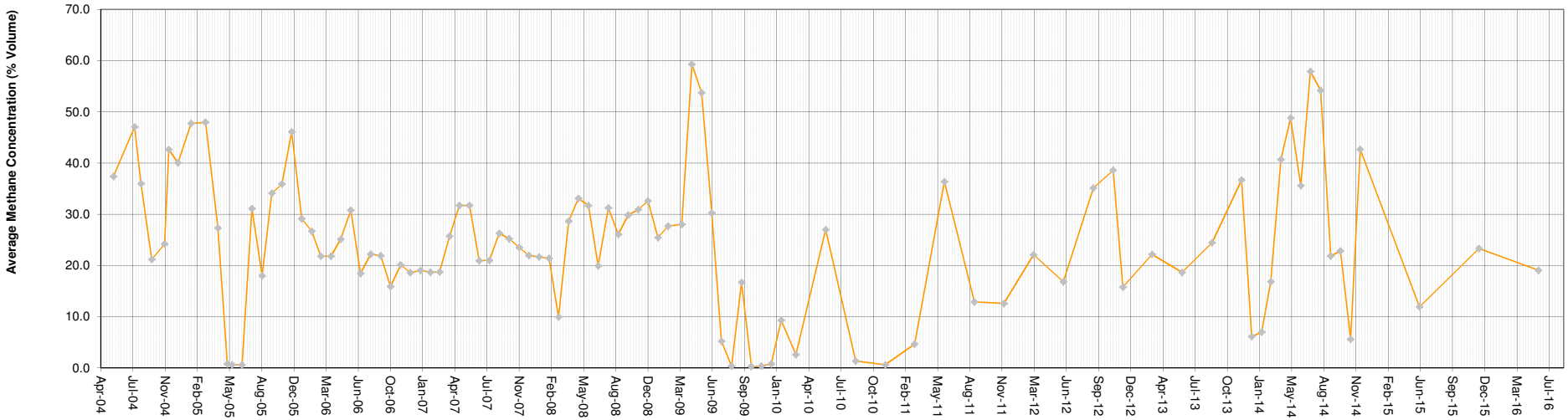


Figure 22
Internal Wells - Average Carbon Dioxide

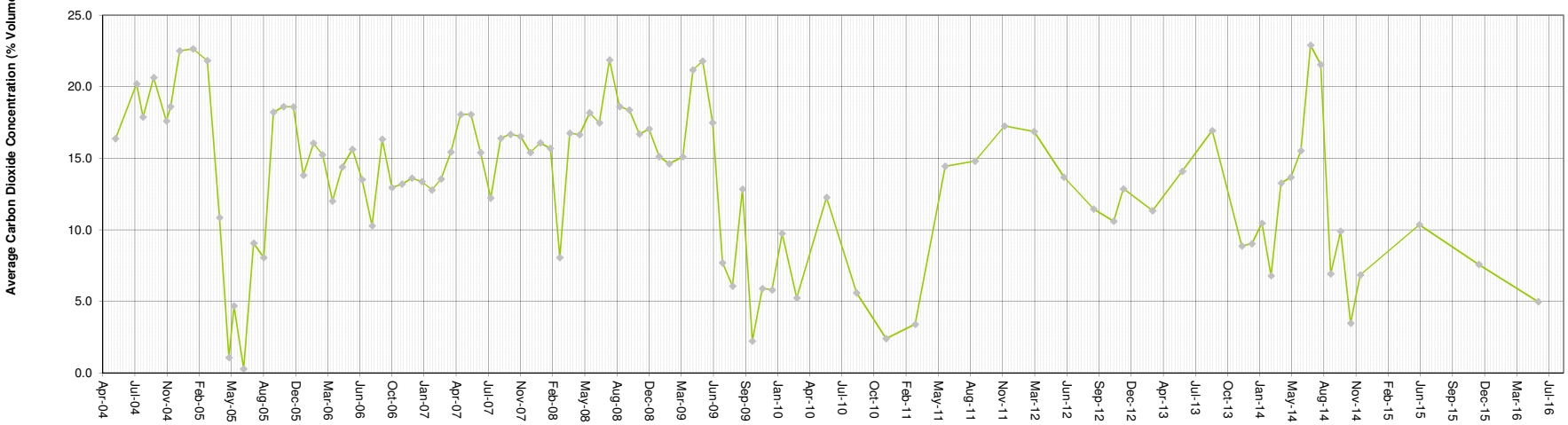


Figure 23
Internal Wells - Methane

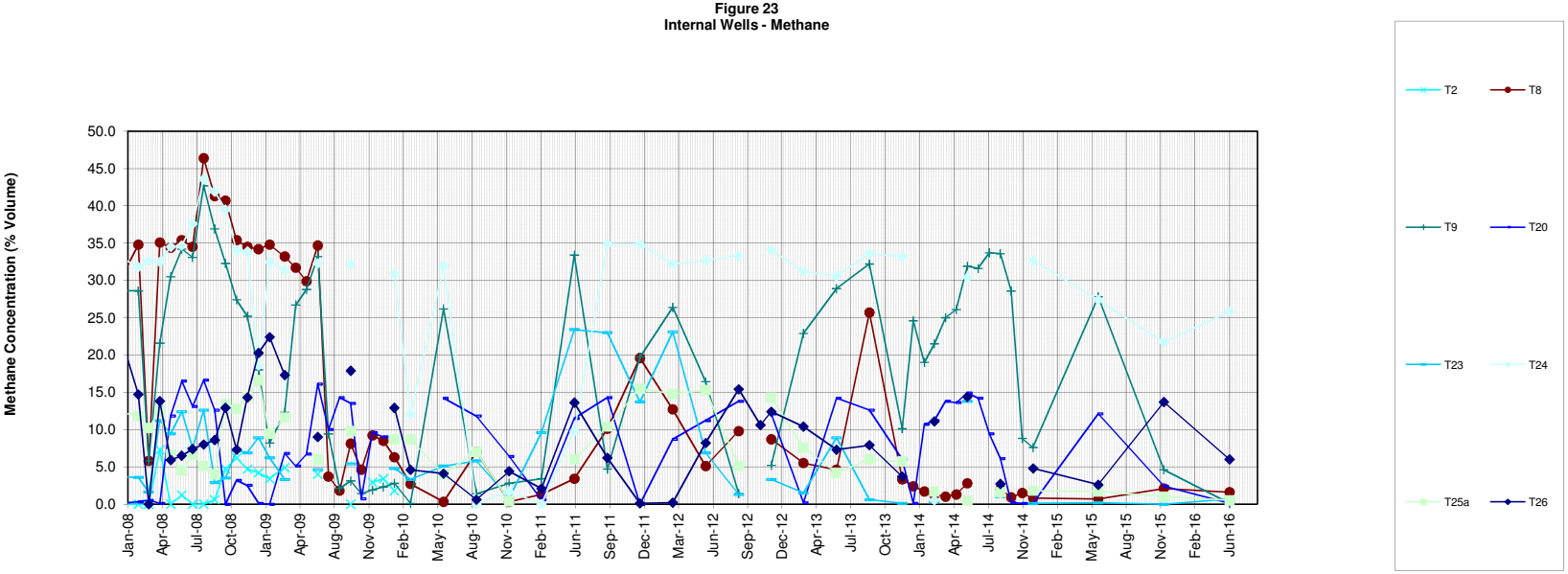


Figure 24
Internal Wells - Carbon Dioxide

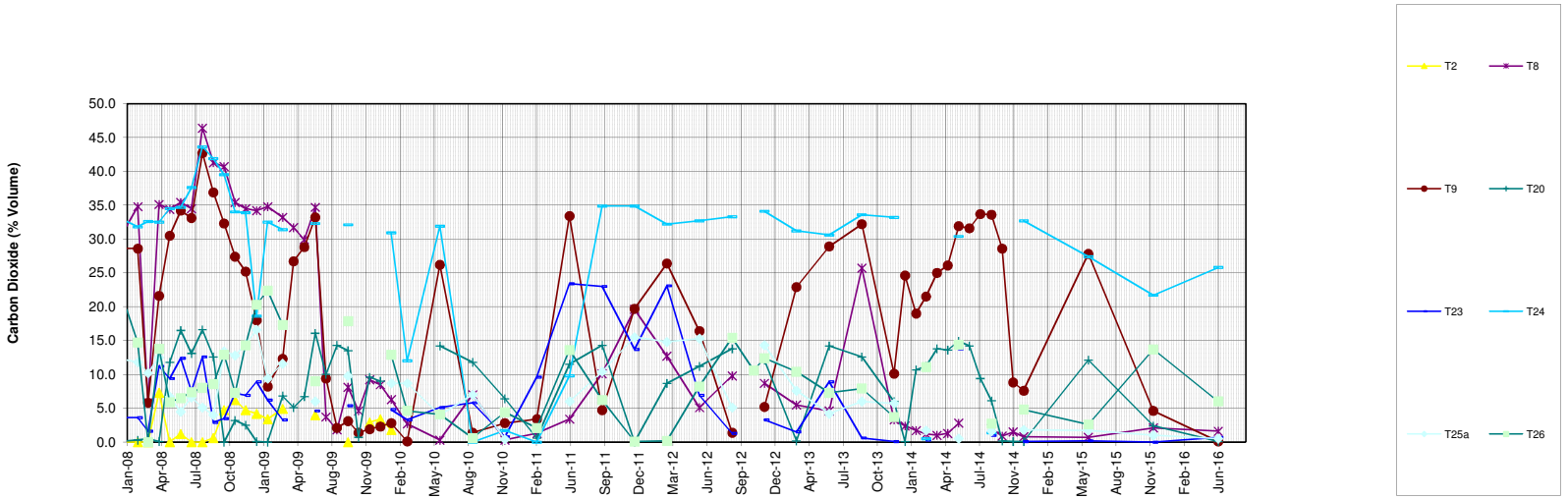


Figure 25
External Wells (North) - Average Methane

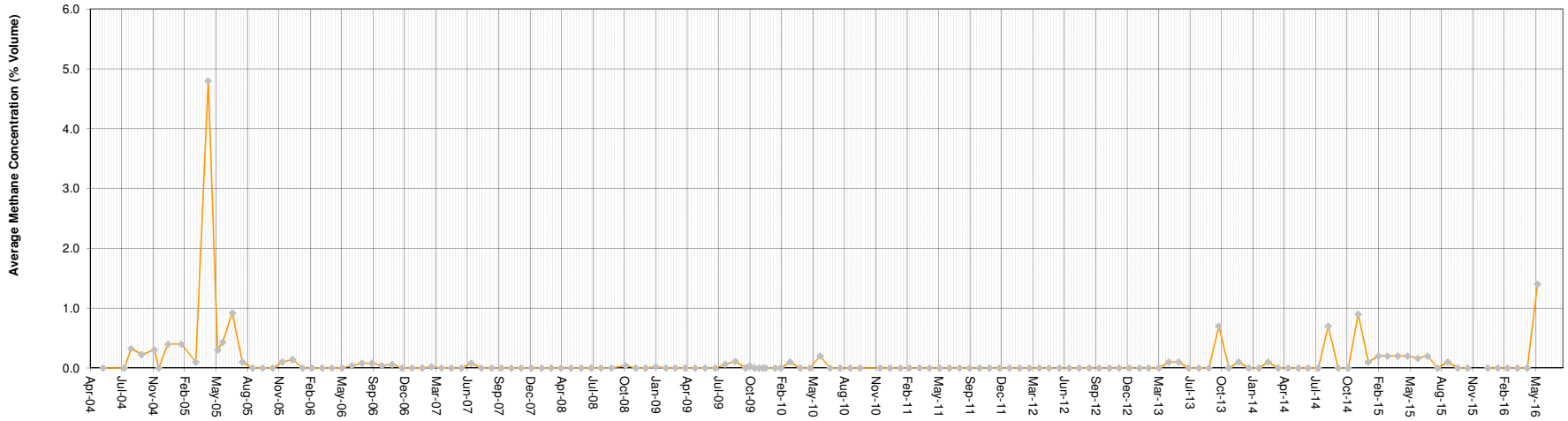


Figure 26
External Wells (North) - Average Carbon Dioxide

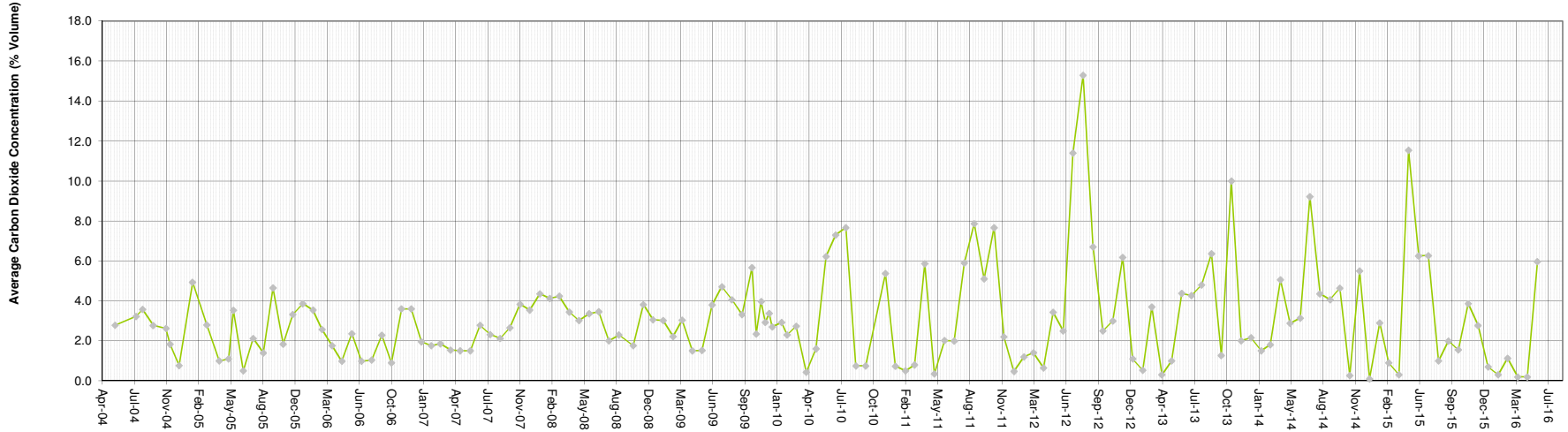


Figure 27
External Wells (North) - Methane

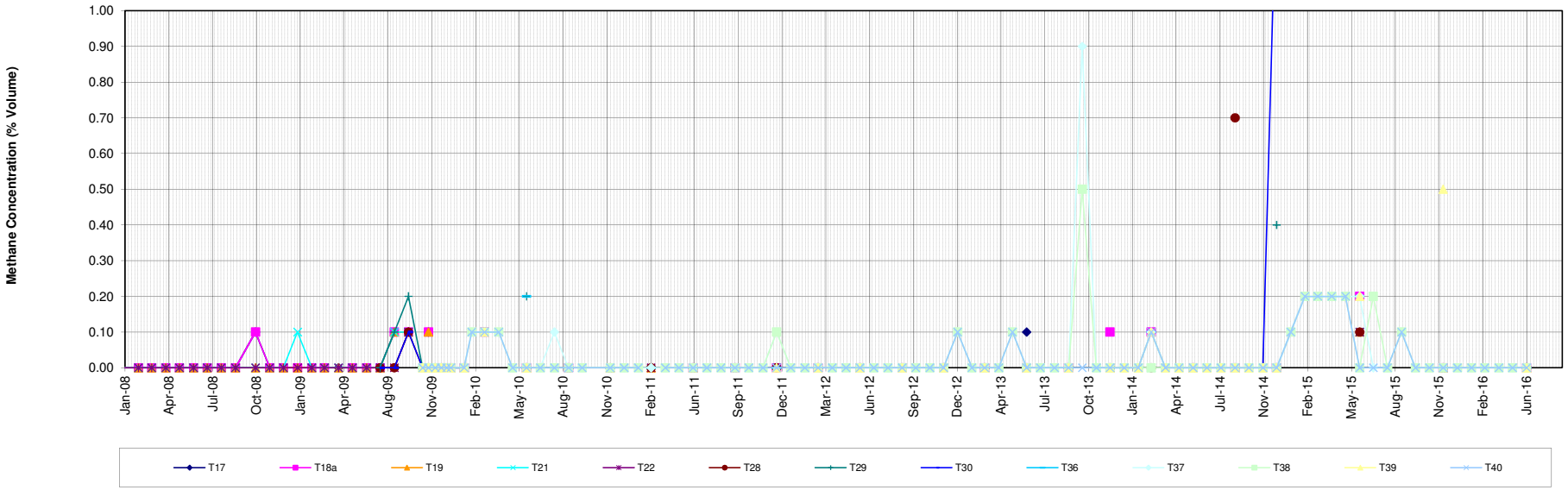


Figure 28
External Wells (North) - Carbon Dioxide

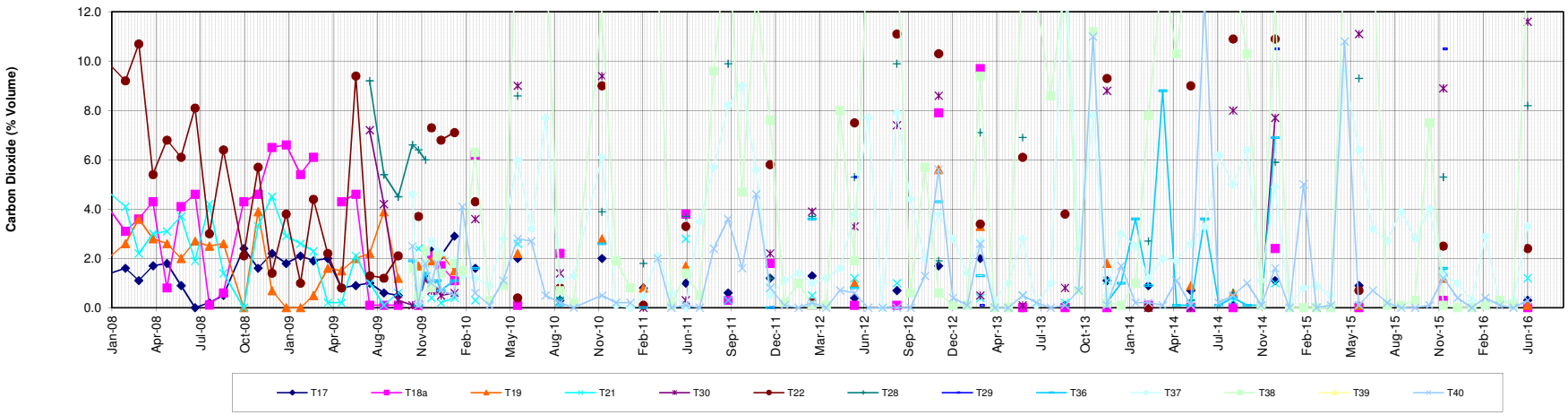


Figure 29
External Wells (South) - Average Methane

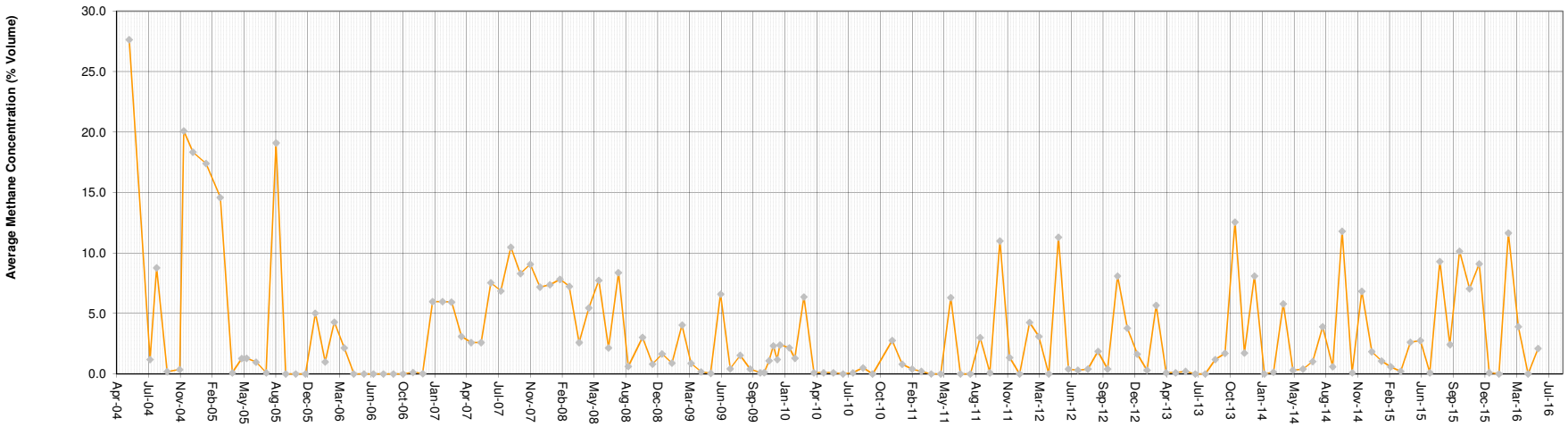


Figure 30
External Wells (South) - Average Carbon Dioxide

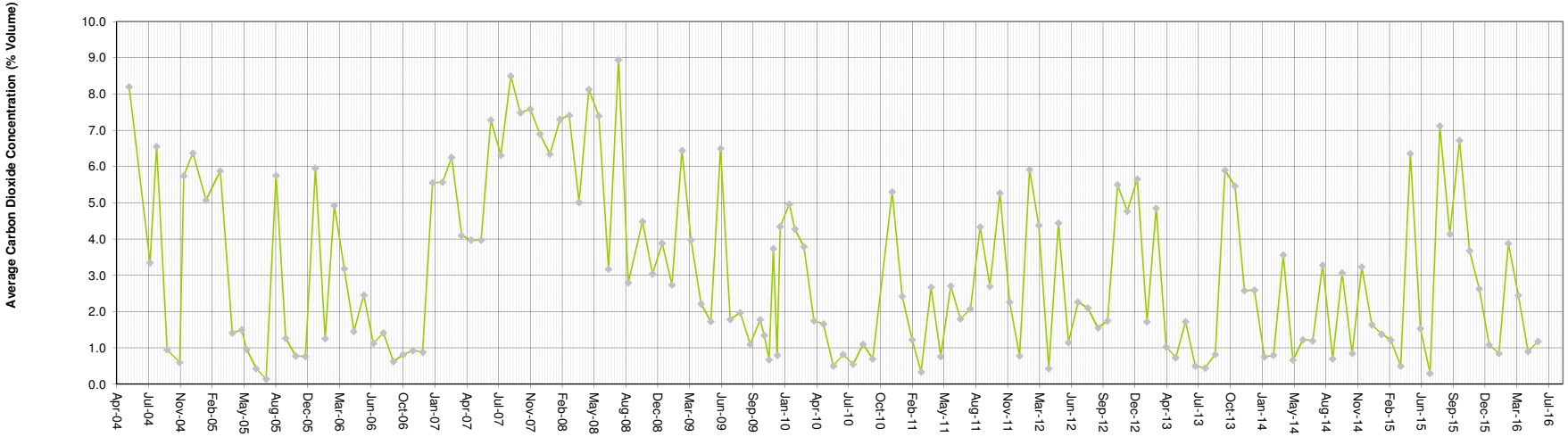


Figure 31
External Wells (South) - Methane

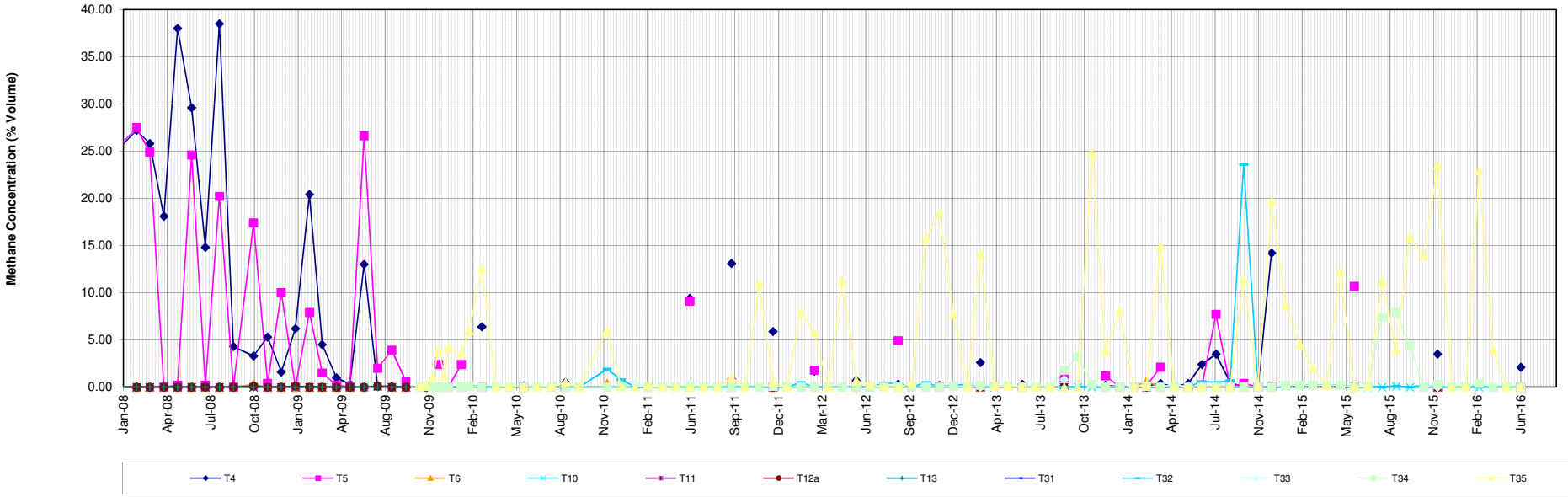


Figure 32
External Wells (South) - Carbon Dioxide

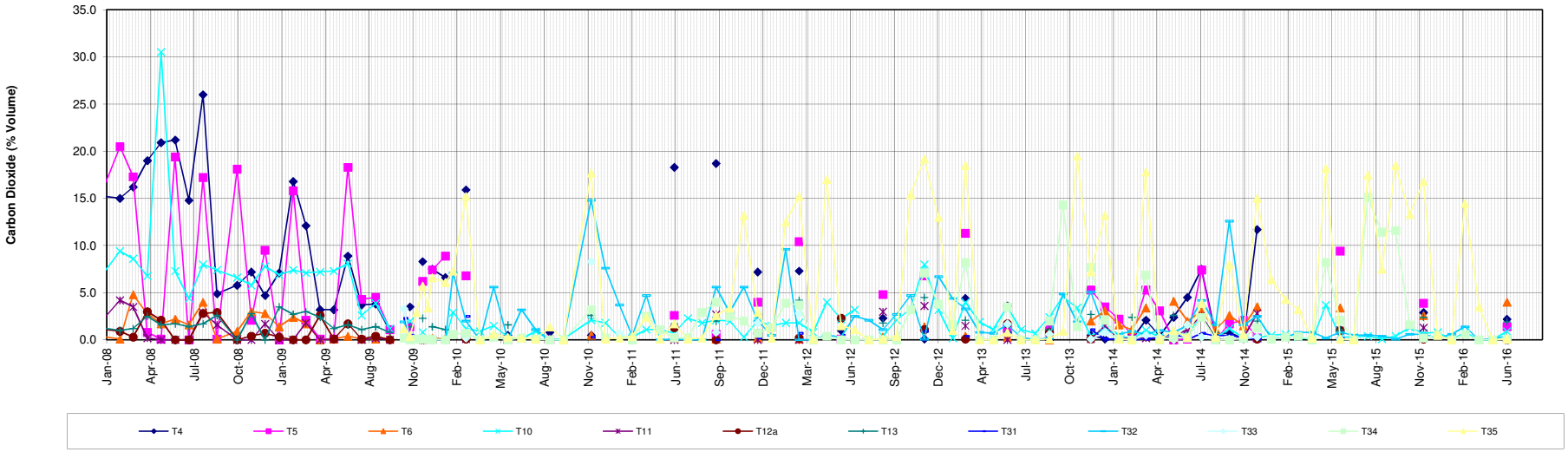


Figure 33
External Wells (East) - Average Methane

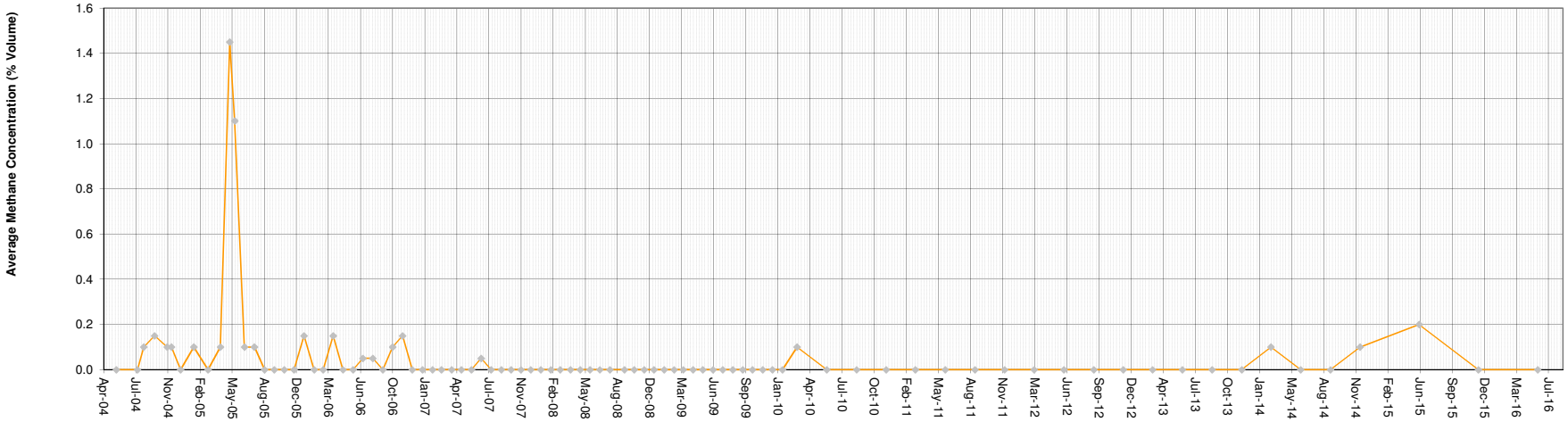


Figure 34
External Wells (East) - Average Carbon Dioxide

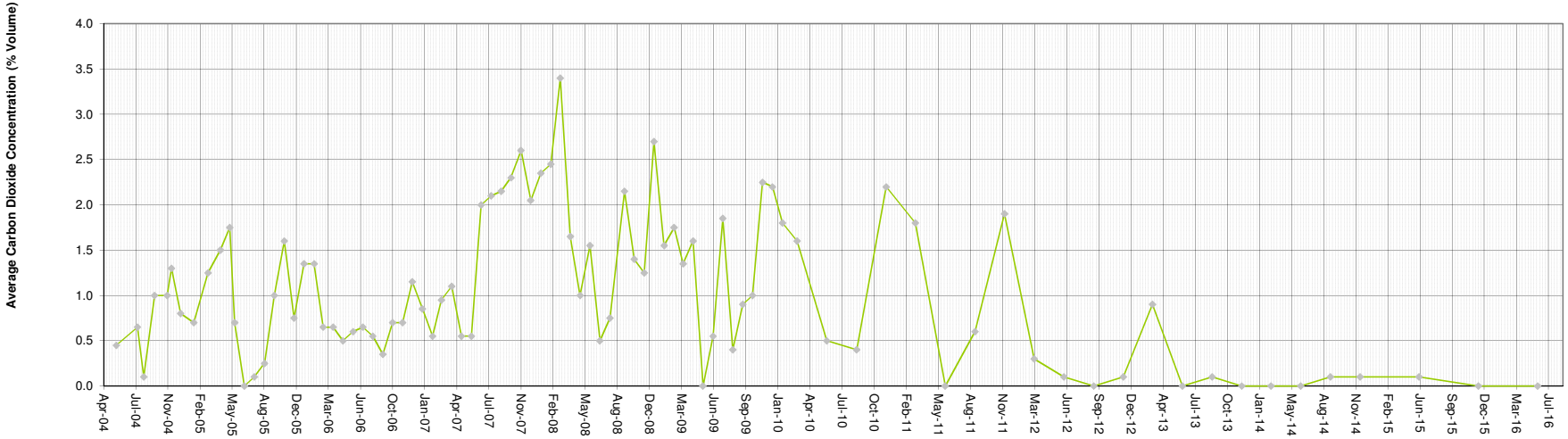


Figure 35
External Wells (East) - Methane

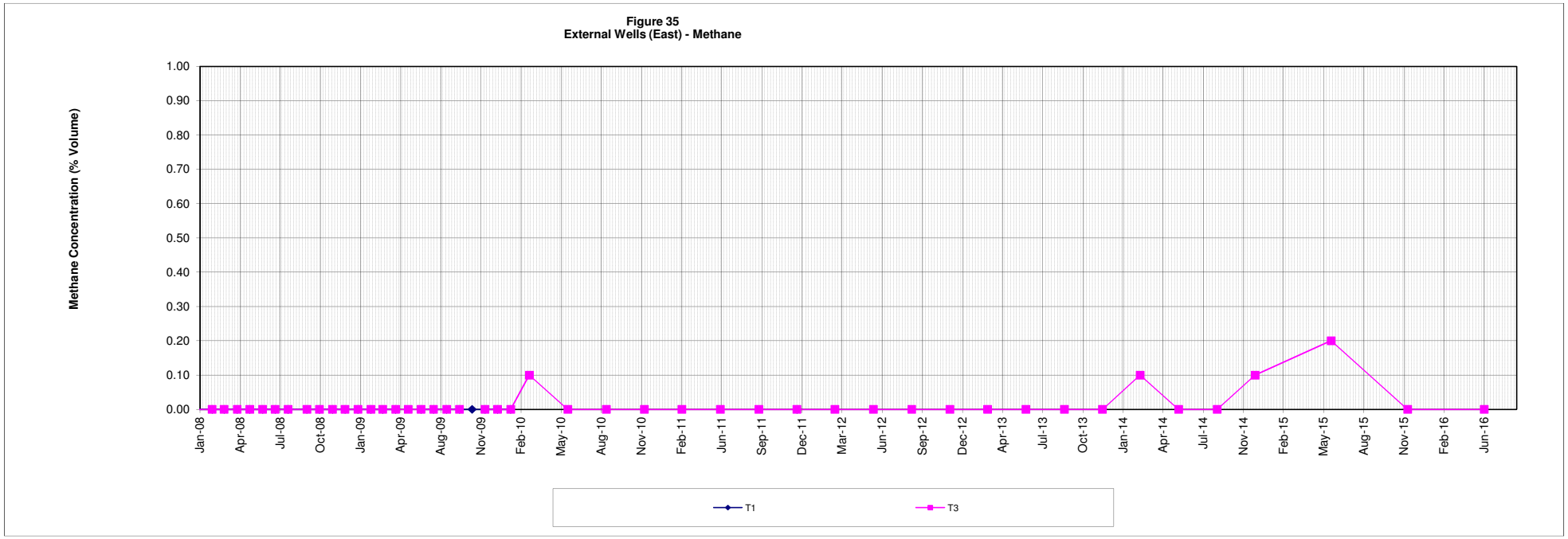


Figure 36
External Wells (East) - Carbon Dioxide

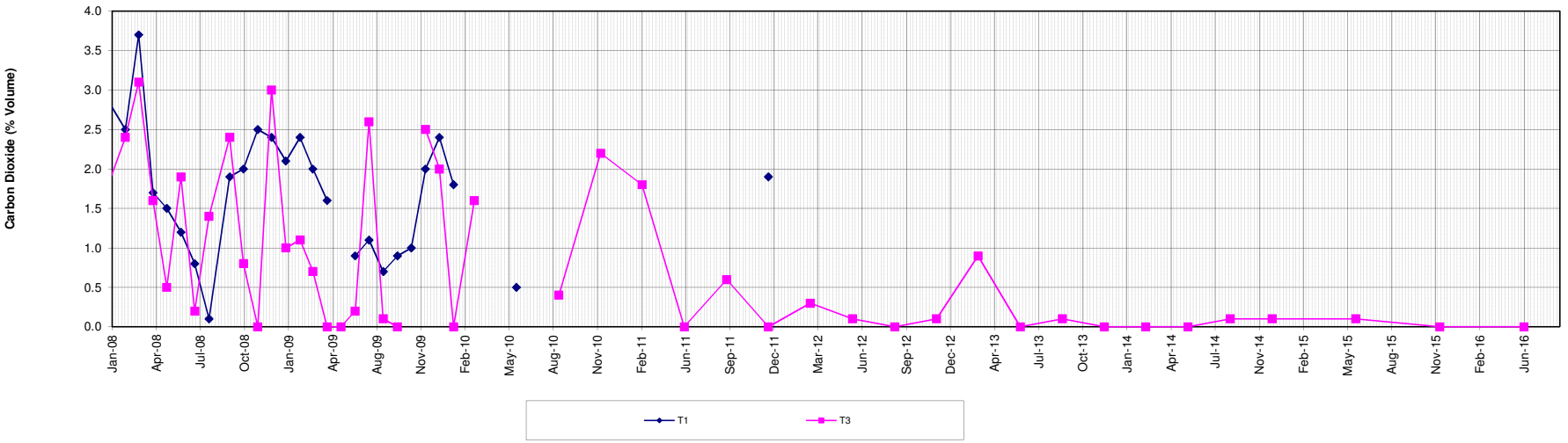


Figure 37
External Wells (West) - Average Methane

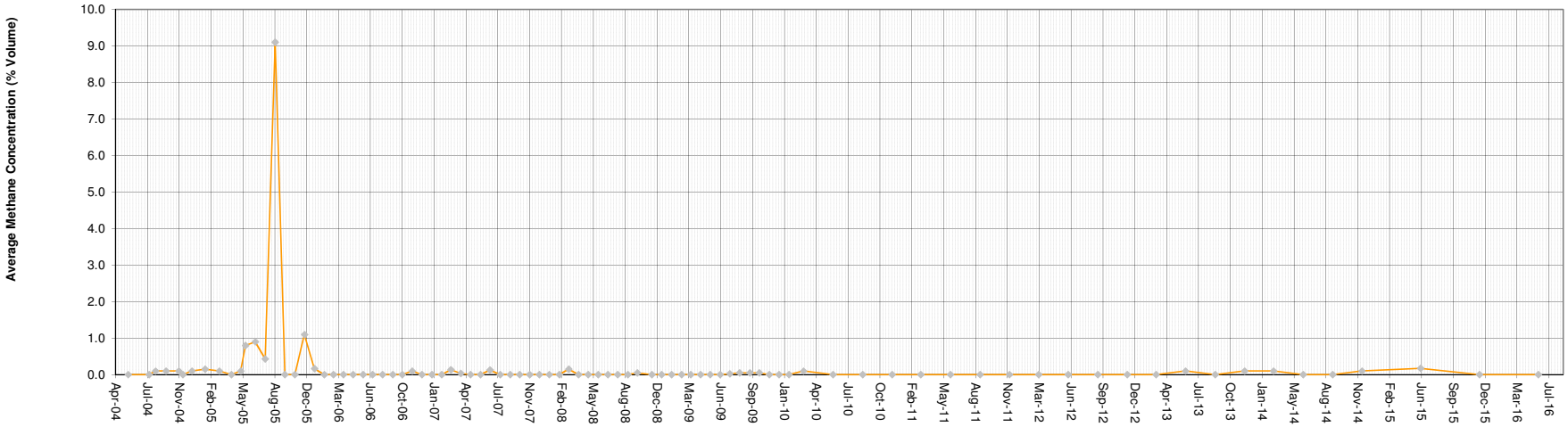


Figure 38
External Wells (West) - Average Carbon Dioxide

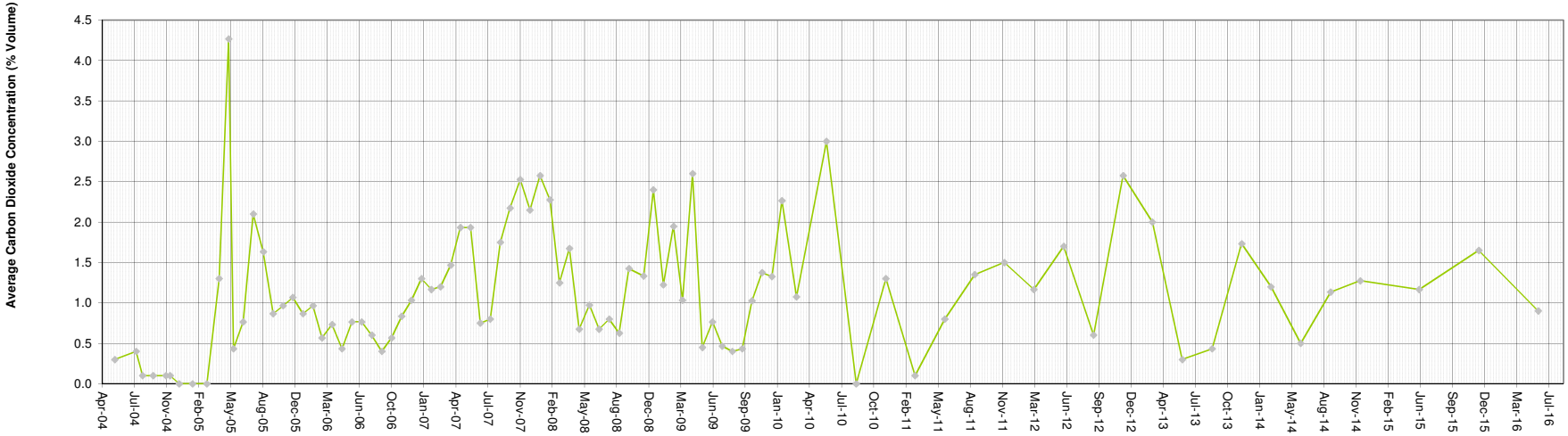


Figure 39
External Wells (West) - Methane

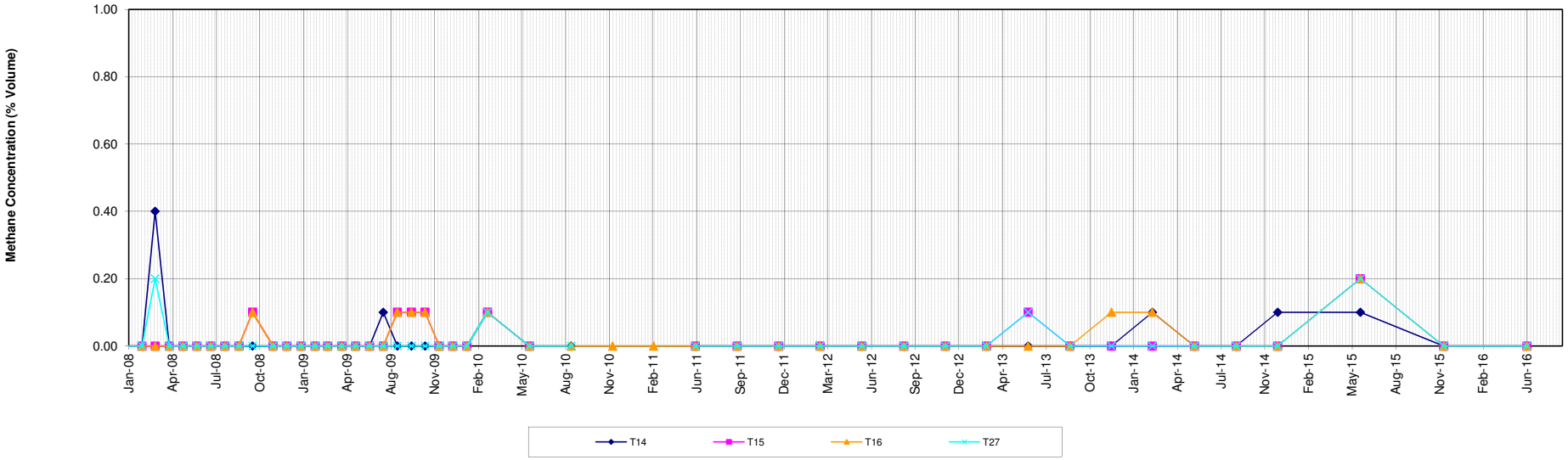
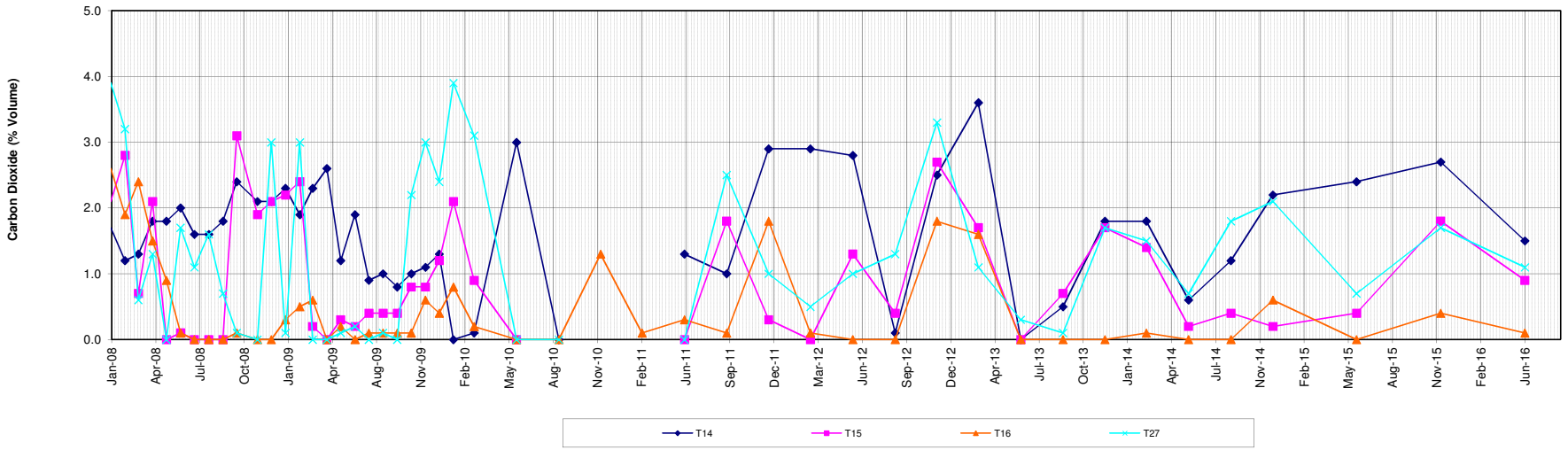


Figure 40
External Wells (West) - Carbon Dioxide



APPENDIX E:

COMPLETION, TRIGGER & CONTROL LEVELS

E1 – Ness Farm Area of Ness Farm Landfill

E2 – Tullos Hill Area of Ness Farm Landfill

APPENDIX E:

E1 – Ness Farm Area of Ness Farm Landfill

NESS AREA OF NESS FARM LANDFILL
LEACHATE COMPLETION CRITERIA

Substance	Leachate Completion Criteria (mg/l)
Ammonia	17
Total Petroleum Hydrocarbons *	2
Calcium	800
Chloride	990
Magnesium	195
Potassium	70
Sodium	800

NESS AREA OF NESS FARM LANDFILL
TRIGGER & CONTROL LEVELS

Groundwater & Leachate Trigger & Control Levels

Determinand	Environmental Acceptance Levels (mg/l)	Source of EALs	Background Water Quality			Trigger Levels (mg/l)	Control Levels (Groundwaters & Surface Waters) (mg/l)
			SW1	N54	T6		
List I Substances							
PCBs / PCTs	0.000005	MRV 1	<0.0002	<0.00001	<0.000002	0.000005	0.000005
Chlorobenzene	0.3	C	<0.01	<0.01	<0.001	0.3	0.3
Trichloroethene	0.0001	MRV 1	<0.01	<0.01	<0.001	0.0001	0.0001
Tetrachloroethene	0.0001	MRV 1	<0.01	<0.01	<0.001	0.0001	0.0001
Dichloroprop	0.0001	A	0.000	0.00089	<0.00015	0.0001	0.0001
PCP	0.0001	MRV 1	<0.15	<0.05	<0.005	0.0001	0.0001
Mercury	0.00001	MRV 1	0.0001	<0.0001	0.0001	0.00001	0.00001
Cadmium	0.0001	MRV 1	0.001	0.003	0.001	0.001	0.001
Cyanide	0.05	A	<0.1	<0.1	<0.1	0.05	0.05
Benzo(a)Pyrene (Polyaromatic Hydrocarbon)	0.00001	MRV 2	0.000	<0.00002	<0.00002	0.00001	0.00001

Determinand	Environmental Acceptance Levels (mg/l)	Source of EALs	Background Water Quality			Trigger Levels	Control Levels	
			SW1	N54	T6		Groundwater (mg/l)	Surface Water (mg/l)
List II Substances								
Ammonium (NH4-N)	0.5	A	44.386	<0.04	<0.04	0.5	15	100
TPH	0.01	A	0.528	0.611	0.521	0.521	0.25	1.0
Selenium	0.01	A	0.028	0.124	0.006	0.01		
Arsenic	0.05	A	0.009	0.078	0.003	0.05		
Antimony	0.005	A	0.002	0.001	0.002	0.005		
Molybdenum	0.07	C	0.006	<0.005	0.011	0.07		
Titanium			0.024	0.044	0.19	0.044		
Tin	0.025	D	<0.1	<0.1	<0.1	0.025		
Barium	1	A	0.918	2.2	0.82	1		
Beryllium	0.015	E	<0.005	0.005	<0.005	0.015		
Boron	1	A	0.614	5	5.2	5		
Uranium	0.009	C	0.001	0.0004	0.0023	0.009		
Vanadium	0.02 – 0.06 [1]	D	0.007	0.022	0.04	0.04		
Cobalt	0.361	E	0.008	0.015	0.028	0.361		
Thallium	0.007	E	<1	<0.1	<0.1	0.007		
Tellurium	0.07	E	0.00015	0.0003	0.2	0.07		
Silver	0.01	A	<0.015	<0.015	0.102	0.102		

Determinand	Environmental Acceptance Levels	Source of EALs	Background Water Quality			Trigger Levels	Control Levels	
							Groundwater	Surface Water
	(mg/l)		SW1	N54	T6	(mg/l)	(mg/l)	
Indicator Parameters								
Electrical Conductivity	2500 µS/cm	A	-	9430 µS/cm	470 µS/cm	2500 µS/cm	2000 µS/cm	3000 µS/cm
Dissolved Oxygen	≥ 70%	B	-			≥ 70%		
Chloride	250	A	399.625	1340	82	250	600	500
Sulphate	250	A	-	12.3	7.84	250		
Total Organic Nitrogen	No Abnormal Change		-	0.3	0.4	0.3		
Total Organic Carbon	No Abnormal Change	A	-	241	22.4	22.4		
Sodium	200	A	-	722	44	200	500	
Potassium	12	A	-	262	18	18	200	
Calcium	250	A	-	116	62	250	150	
Magnesium	50	A	-	87	23	50	70	
Iron	0.2	A	-	11.58	35.34	11.58		
Manganese	0.05	A	-	3.6	2.87	2.9		
Chromium	0.05	A	-	0.035	0.045	0.05		
Copper	2	A	-	0.007	0.1	2		
Nickel	0.02	A	-	0.07	0.061	0.06		
Lead	0.01	A	-	0.011	0.017	0.011		
Zinc	5	A	-	0.045	0.048	5		

Notes

1 – Assessment Criteria varies depending on water hardness.

MRV 1 – Achievable Minimum Reporting Values. From information received from Environment Agency National Laboratory.
MRV 2 – Typical Minimum Reporting Values. From Environment Agency (2003) Hydrogeological Risk Assessment for Landfills.

Sources of Environmental Acceptance Levels

A. UK Drinking Water Standards (2001)
B. World Health Organisation (2003) Guidelines for Drinking Water Quality, 3rd Edition.
C. Environment Agency (2001) Environmental Quality Standards (EQS)
D. Dutch Circular on Target Values & Intervention Values for Soil Remediation (2000)
E. State of Maryland Department of the Environment. Cleanup Standards for Soil and Groundwater (2001)

APPENDIX E:

E2 – Tullos Hill Area of Ness Farm Landfill

TULLOS HILL AREA OF NESS FARM LANDFILL
COMPLETION, TRIGGER & CONTROL LEVELS

Determinand	Environmental Acceptance Levels (mg/l)	Source of EALs	Background Water Quality (mg/l)			Trigger & Control Level (mg/l)
			T15	N54	T6	
List I Substances						
PCBs / PCTs	0.000005	MRV 1	< 0.001	<0.00001	<0.000002	0.000005
Chlorobenzene	0.3	C	< 1.0	<0.01	<0.001	1
Trichloroethene	0.0001	MRV 1	< 0.001	<0.01	<0.001	0.0001
Tetrachloroethene	0.0001	MRV 1	<0.001	<0.01	<0.001	0.01
Dichloroprop	0.0001	A	<0.00005	0.00089	<0.00015	0.00089
PCP	0.0001	MRV 1	<0.005	<0.05	<0.005	0.05
Mercury	0.00001	MRV 1	0.0001	<0.0001	0.0001	0.0001
Cadmium	0.0001	MRV 1	<0.005	0.003	0.001	0.005
Cyanide	0.05	A	<0.01	<0.01	<0.01	0.01
Benzo(a)Pyrene	0.00001	MRV 2	<0.01	<0.00002	<0.00002	0.01

Determinand	Environmental Acceptance Levels (mg/l)	Source of EALs	Background Water Quality (mg/l)			Leachate Completion Criteria (mg/l)	Trigger Level (mg/l)	Control Level (mg/l)
			T15	N54	T6			
List II Substances								
Ammonium (NH4-N)	0.5	A	<0.04	<0.04	<0.04	250	0.5	0.4
TPH	0.01	A	0.02	-	<0.04	0.2	0.03	0.01
Selenium	0.01	A	0.001	-	0.006	0.01	0.01	0.005
Arsenic	0.05	A	0.002	0.078	0.003		0.078	
Antimony	0.005	A	<0.001	0.001	0.002		0.005	
Molybdenum	0.07	C	<0.005	<0.005	0.011		0.07	
Titanium	-		0.65	0.044	0.19		0.65	
Tin	0.025	D	<0.10	<0.1	<0.1		0.1	
Barium	1	A	<0.21	2.2	0.82		2.2	
Beryllium	0.015	E	<0.005	0.005	<0.005		0.015	
Boron	1	A	5.4	5	5.2		5.4	
Uranium	0.009	C	1.10	0.0004	0.0023		1.1	
Vanadium	0.02 – 0.06 [1]	C	0.0034	0.038	0.05	0.15	0.05	0.03
Cobalt	0.361	E	0.013	0.015	0.028		0.361	
Thallium	0.007	E	<0.1	<0.1	<0.1		0.1	
Tellurium	0.07	E	<0.1	0.0003	0.2		0.02	
Silver	0.01	A	<0.015	<0.015	0.102		0.102	
Copper	2	A	0.034	0.007	0.1		2	
Nickel	0.02	A	0.016	0.07	0.061		0.07	
Lead	0.01	A	0.02	0.015	0.05		0.05	
Zinc	5	A	0.05	0.045	0.048		5	

Determinand	Environmental Acceptance Levels (mg/l)	Source of EALs	Background Water Quality			Leachate Completion Criteria (mg/l)	Trigger Level (mg/l)	Control Level (mg/l)
			T15	N54	T6			
Indicator Parameters								
Electrical Conductivity (µS/cm)	2500	A	3360	9430	5285		9430	
Chloride	250	A	1340	1390	1470		1470	
Sulphate	250	A	29	12.3	7.84		250	
Sodium	200	A	36	8	33.9	250	200	150
Potassium	12	A	8	61	18	200	40	30
Calcium	250	A	16	116	62		250	
Chromium	0.05	A	0.000025	0.035	0.045		0.05	
Magnesium	50	A	89	87	23		70	
Iron	0.2	A	19.39	11.6	-	40	20	18
Manganese	0.05	A	1.54	5.03	4.11		4	

Notes

1 – Assessment Criteria varies depending on water hardness.
MRV 1 – Achievable Minimum Reporting Values. From information received from Environment Agency National Laboratory.
MRV 2 – Typical Minimum Reporting Values. From Environment Agency (2003) Hydrogeological Risk Assessment for Landfills.

Sources of Water Quality Standards

A. UK Drinking Water Standards (2001)
B. World Health Organisation (2003) Guidelines for Drinking Water Quality, 3rd Edition.
C. Environment Agency (2001) Environmental Quality Standards (EQS)
D. Dutch Circular on Target Values & Intervention Values for Soil Remediation (2000)
E. State of Maryland Department of the Environment. Cleanup Standards for Soil and Groundwater (2001)

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FAIRHURST

APPENDIX F- Overlay of development on aerial image

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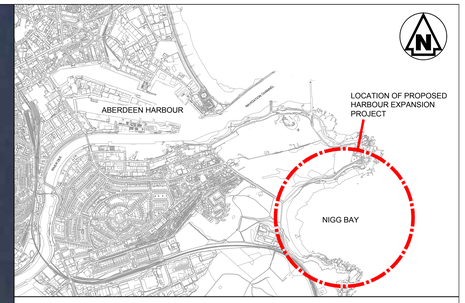

LOCATION PLAN
SCALE 1:20,000

NORTH QUAY
WEST QUAY
EAST QUAY
NORTH BREAKWATER
NIGG BAY
SOUTH BREAKWATER

Rev:	Date:	Revision:	By:

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Date:	Designed by:	Drawing Number:
JANUARY 2017	Drawn by: J WILSON	2015001- AV 003
Scale(s) 1:2500	Checked by:	
	Approved by: K YOUNG	

APPENDIX G- Earth Sciences Documentation Series – Nigg Bay landfill

EARTH SCIENCE DOCUMENTATION SERIES

NIGG BAY SITE OF SPECIAL SCIENTIFIC INTEREST

Prepared by Sarah Keast
Date of Field Visit 1 December 1992

The Earth Science Site Documentation Series

The primary purpose of this report series is to describe and explain the interest of each of our Geological Conservation Review sites in plain English. The reports are written primarily for the benefit of Area Team staff, but you may feel that it is appropriate to share the information with the site owners/occupier, or others with an interest in the site. In whatever way you decide to use it, the contents of this report are designed to make you more informed and effective advocates for earth science conservation!

The Earth Science Site Documentation Series also provides the basic information required to prepare a 'Site Management Brief. In putting together this report, there has been little contact with the site owner/occupier, other than that concerned with the basic access arrangement. So discussions regarding long-term site management objectives have yet to take place. The assistance of Area Team staff is therefore required to help change the focus of this report from a factual account of the nature and distribution of the scientific interest to something more proactive. Any observations that you may have, particularly on aspects of 'site management' (Section 3) , will be a useful contribution to that process. You will find 'Appendices' to the 'Earth Science Conservation Strategy' to be of assistance, as this handbook is largely concerned with site management.

For the benefit of those who are more familiar with the earth sciences, a more detailed site description is given in Section 4 of this report.

NIGG BAY SITE OF SPECIAL SCIENTIFIC INTEREST

Contents

SECTION 1 INTRODUCTION

1.1 Introduction 3

1.2 Site Location, Boundary and Access 3

SECTION 2 SCIENTIFIC INTEREST

2.1 Introduction. 6

2.2 Description of Section. 7

2.3 Significance - A Summary Statement. 17

SECTION 3 SITE MANAGEMENT

3.1 Current Site Condition. 18

3.2 List of Activities Likely to Damage the Interest. .23

3.3 Interest Zonation 25

3.4 Site Management 25

SECTION 4 SCIENTIFIC DESCRIPTIONS

4.1 Citation. 31

4.2 GCR Statement on the Nigg Bay SSSI. 32

SECTION 5 REFERENCES 42

APPENDIX 1 Notes on the clearance and conservation of geological sites. 43

1 **Introduction**

The Nigg Bay Site of Special Scientific Interest has been designated for its Quaternary sediments. The site is an unconsolidated cliff face which shows a series of glacial deposits which were laid down during the last ice age. The interpretation of these sediments is of fundamental importance in understanding the sequence of events in the Aberdeen area during the last ice age. At present the section is in a poor condition and requires an active management plan to restore its scientific value.

1.2 site location, boundary and access

The site lies on the south side of Nigg Bay immediately south of Aberdeen and close to the Balnagask housing estate (see Map 1). The site is currently owned by Aberdeen City Council but is used by Grampian Regional Council for the storage of materials. The SSSI occupies an area from Low Water Mark inland to the coast road. The principle area of interest, the low cliff of unconsolidated sedimentary material, can be seen in Photo 1. Access to the site is by arrangement with Grampian Regional Council.

The site is reached by car from Aberdeen, following the coast/harbour road. Limited parking space is available close to the site.

MAP 1 The Nigg Bay Site of Special Scientific Interest

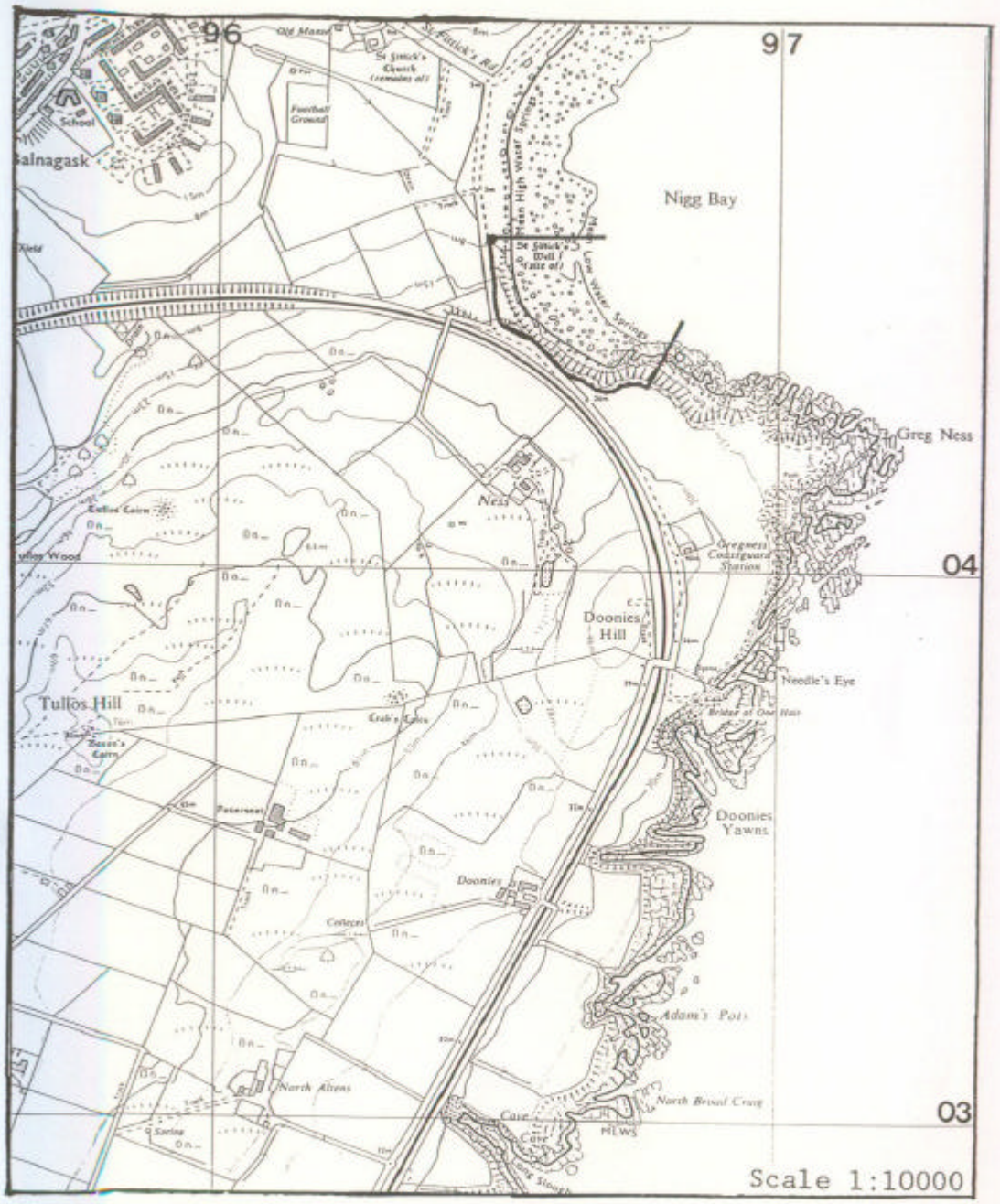

Photo 1 Nigg Bay SSSI, November 1992. Note that the bench feature extends along the full length of the cliff face.

Photo 2 The site in 1979. The bench extends only part way along the cliff face leaving the lowest horizon of deposits exposed at the south end.

SECTION 2 SCIENTIFIC INTEREST

2.1 Introduction

The interest in the site relates to the glacial history of the Aberdeen area. The last ice age to affect this part of North East Scotland reached its maximum about 18,000 years ago. During this period ice covered most of the region, and large quantities of rock and unconsolidated debris were eroded and transported by the glaciers. Towards the end of the ice age the climate became milder, and as the glaciers melted, this debris was deposited by the ice and its meltwaters. The resulting sediments provide us with vital clues about the source of the ice and its directions of movement. In particular, the composition of stones and boulders which have been transported by the ice can help identify where the ice came from, i.e. the provenance of the ice.

The sediments at Nigg Bay suggest that more than one glacier affected the area during the last ice age, and from the information at Nigg Bay and a network of other sites, the sequence of glacial events during the last ice age can be reconstructed.

The site has a long history of research dating back to the middle of the 19th century when workers such as T F Jameson first noted the significance of the deposits. Early interpretations and observations have been modified throughout the last hundred years in light of advances in the understanding of glacial processes. The Nigg Bay deposits infill a former valley of the River Dee. The channel extends 40m below the surface and seismic surveys

have traced it 10 km offshore. The cliff face is unconsolidated and in the past good exposures were maintained by active marine erosion. However, the base of the cliff is now protected along its entire length and in recent years the section has become degraded and covered in grass. Photos 1, 2, 3a and 3b show the difference in exposure of the section in 1979 and 1992. At the time of the most recent visit (December 1992) the site was covered with grass, and dumping of rubble has obscured an important part of the interest at the base of the cliff at the south end of the section.

2.2 Description of the Section

Figure 1 shows a cross section of the sedimentary deposits in the cliff. The cliff face can be divided into 6 distinct horizons:

BASAL SAND AND GRAVEL (Bed 1)

The basal horizon consists of horizontal beds of sand and gravel deposited on granite bedrock. Its thickness is estimated at 3-6m. This horizon is exposed only at the very southern end of the site (see Photo 2). This area has now been partially infilled and the very lowest deposits cannot be seen, but should still be preserved below the dumped debris.

The gravel pebbles include several different rock types which are diagnostic of the direction of ice movement. These include rocks which originate in Scandinavia (this suggests they may have been transported over the North Sea basin, possibly by sea ice) and igneous rocks from the Belhelvie area 10 km to the to the north-west. The evidence strongly suggests an early glaciation from

SECTION	CONTENT	INTERPRETATION
6. HEAD DEPOSIT 0.5-lm thick	Gravels - highly shattered and cracked	Typical of a head deposit - sorted polygons may exist - suggesting frost sorting
5. GRAVELS l-3m	Coarse and poorly bedded with lenticles of sand	First interpreted as moraines. Later interpreted as contemporary with last ice sheet. Glaciofluvial landforms of Late Devensian Age.
RED SANDS with laminated silts and clays l-2m	Reddish brown sands containing bands of laminated clay (red clay) merge into gravels southwards	Thought to be contemporary with gravel as no sharp junction exists.
RED TILL 2-3m	Gradual transition from lower grey till to red till. In other sections these two tills have been seen interbedded	Deposited by ice from Strathmore to the south (because it contains Old Red Sandstone clasts).
GREY TILL 10m	Lies unconformably on the lower sand and gravel. Tough and compact layer. Contains erratics of granite gneiss. Correlates with *a* widely occurring local till in the Aberdeen area.	Deposited by the ice moving down the Dee Valley.
SAND AND GRAVEL 3-6m	Exposed only at the south end of the section. Thickness 3-6m but only partially exposed. Horizontally bedded. Rests on weathered granite. Contains erratics from Belhelvie 10km north-north west and Scandinavian rocks.	Erratic content suggests earlier glaciation (pre-Devensian) from the north-north west. Possibly Scandinavian in origin. [Meltwater deposits which have reworked, at least in part, on earlier till.]

Photographs 3a and 3b

Photo 3b Detail of cliff face in 1979 showing good exposure of sediments. The increase in vegetation cover in recent years can be appreciated.

Photo 3a General view of the Nigg Bay SSSI, December 1992.

the north predating the last ice sheet. The sediment (till) was subsequently reworked and sorted, probably by meltwater rivers, which produced the horizontal bedding. The sand and gravel is also reported to contain armoured till balls (Gemmell 1992 pers. comm.). Till is a glacial deposit which is formed by direct deposition from a glacier. The till balls seen in the lowermost horizon at Nigg Bay are likely to be the reworked remnants of an early till deposit. They occur as rounded blocks of till with a hardened (armoured) surface layer which enables them to be transported and deposited in a consolidated state. The till balls are important as they provide further evidence for an early glacial event prior to the last ice age.

GREY TILL **(Bed 2)**

The basal sand and gravel is overlain by a 10 m thick horizon of grey till. The contact between the two layers is described as **unconformable.** This means that there was a period of erosion or time gap between the deposition of the first layer and the second, i.e. deposition was not continuous. Unconformable layers can often be detected by evidence for erosion of the lower layer or changes in sediment type or patterns of deposition. In the case of Nigg Bay, the unconformity suggests there was a time interval between the events causing the deposition of the basal sand and gravel and the overlying grey till. There is no way of determining the length of this time interval.

Photo 4 Clasts (or pebbles) in the grey till

Photo 5 Fine sediments in the grey till

Photo 6 Location of photo 4 - exposure of sand and gravel at the base of the grey till. Note the growth of vegetation and the accumulation of rubbish.

Photo 7 Main exposure of tills at Nigg Bay SSSI, December 1992.

Diesel seeps visible in cliff face. (D)

The deposition of the two horizons could relate to two separate events or simply two parts of a single event. The grey till is a glacial deposit characterised by its colour and tough, compact nature. Photos 4, 5 and 6 show examples of the sediments in the grey till. The boulders and pebbles in the till matrix are granite and gneiss derived locally from the Aberdeen area. In the lower part of the till the clasts have their long axes orientated in a SSW-NNE direction, thought to be related to the former direction of ice movement. It is beleived that the grey till was deposited by ice which travelled down the Dee valley. In its uppermost horizons the grey till merges into, and is then superseded by the red till. Photo 7 shows the best exposed section at the site. Distinct horizons of coarse stony material can be identified. Above this lies the red till but the boundary between the two merges and is indistinct.

RED TILL (Bed 3)

Photographs 7, 8 and 9 show details of the red till. This deposit contains clasts of Old Red Sandstone and volcanic rocks. These are derived from rocks in the Lunan Bay - Montrose area or from offshore sources. The long axes of the clasts are orientated in a northerly direction. This evidence suggests that the red till was associated with an ice mass which moved northwards from the Strathmore area. In other parts of North-East Scotland the grey and red tills have been seen interbedded. This suggests that they are contemporaneous.

Photo 8 Red Till sediments

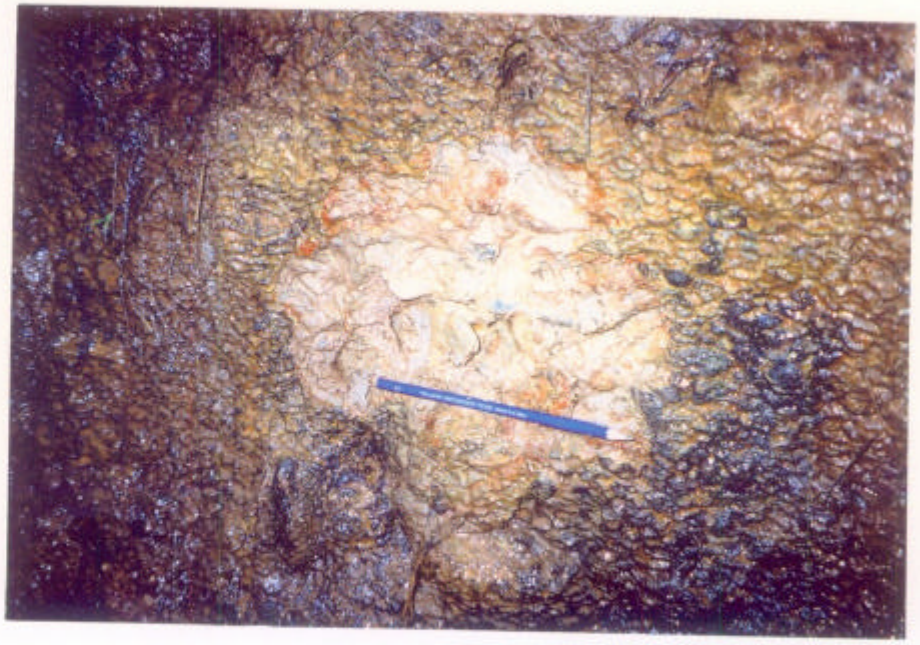

Photo 9 Red Till sediments. Note diesel oils seeping out of sediment

SAND AND GRAVEL HORIZONS AND HEAD DEPOSITS (Beds 4, 5 and 6) The upper horizons of the Nigg Bay section consist of sands and gravels. The sandy horizon (Bed 4) follows on from the red till. The sands are reddish brown in colour with bands of red clay. The gravels (Bed 5) merge into the sands and are probably contemporaneous. Photo 10 shows the sand and gravel horizons above the red till. The sandy horizon is not well exposed at present. The gravels are poorly sorted. Both horizons probably have a glaciofluvial origin (ie. formed by deposition from glacial meltwater streams). They contain the same types of clast as the red till. Elsewhere in the Aberdeen area a suite of glaciofluvial deposits extends from south of Nigg Bay to the River Ythan.

Photos 10 and 11 show details of the head deposit at the top of the section; a podzol is developed in its upper layers. It can be seen that the sediment is structured, containing a sand lense with clasts (larger stones) round the margins. This type of sedimentary feature has been interpreted as frost sorting. In the aftermath of glaciation, while the climate remained severe, clasts were heaved upwards in the soil as the ground froze, producing a "frost sorted" layer.

Photo 10 Top sand and gravel deposit (Bed 5) and frost sorting in head deposit (Bed 6).

Photo 11 Detailed view of frost sorting. Sand lense (SL) covered by podsol (PS) with clasts sorted around the lense.

2.3 Significance - A Summary Statement

The sequence of deposits at Nigg Bay represents several glacial events characteristic of the Aberdeen area. The sediments record at least two glaciations, the youngest of which occured during the Late Devensian about 18,000 years ago. The complexity of ice movement during this glaciation is particularly well illustrated by the characteristics of the different deposits. Subsequent deglaciation is represented in the section by an assemblage of glaciofluvial sands and gravels. The latter deposits also show some sorting as a result of severe climatic conditions at the end of the ice age. Nigg Bay is therefore a key site for interpreting the glacial history and patterns of ice movement in NE Scotland during the last ice age.

SECTION 3 SITE MANAGEMENT

The principal aims of site management are to maintain or restore the scientific value of the site, and to attempt to resolve any problems or conflicts of interest between the protection of the scientific interest and the current uses of the site. In this respect Nigg Bay SSSI is problematic. The current use of the site conflicts with the scientific interest and the section has become vegetated, reducing the exposure. Consequently the site requires considerable management input.

3.1 Current site condition

The current state of Nigg Bay SSSI is very poor. There are four main problems:

(1) Vegetation cover
(2) Tipping and infilling
(3) Litter and pollution
(4) Storage of materials

(1) Vegetation cover

The section itself is becoming heavily covered in vegetation which obscures the sediments, rendering interpretation impossible. The red sand unit was not visible on the site visit because of grass and scrub growth. At the south end of the succession, the grey till occurs much higher up in the cliff face than at the northern end, and the red till seems greatly reduced in thickness. This may be significant in interpreting the process of deposition. However, it was impossible to correlate

between the two areas because the intervening slopes are grass covered (see Photos 3a, 3b, 7 and 12). It should be noted that the vegetation helps to stablise the unconsolidated sediment, reducing erosion. This is an important issue, as the earth face is less than 20m in front of the road and main railway line and further erosion would seriously threaten the safety of these facilities (see Map 1). Clearly vegetation growth on the face diminishes the scientific value of the site but its removal could enhance the rate of erosion of the face. This conflict should be addressed by the site management plan.

(2) Tipping and infilling of the site

Photos 12 and 13 illustrate the extent of a levelled bench along the foot of the cliff. This has been created by tipping of rubble, rubbish, earth, concrete, tarmac etc on to the beach. This bench is used by Grampian Regional Council Roads Department for the storage of granite blocks, kerb and paving stones. The history of tipping on the site is complex. Originally tipping began as a coastal protection measure because the earth cliffs were being eroded by the sea. By protecting the base of the cliff, erosion has been effectively halted, allowing the section to degrade and become vegetated. In view of the threat from erosion to the road and railway, the NCC granted permission for "controlled" tipping to take place, providing that the exposure of the basal section of sand and gravel at the south end of the section did not become obscured. As Photos l and 2 show, the tipping was not restricted and this important exposure has now been buried.

Photo 12 The bench at the foot of the cliff created by tipping material along the shore. Note flagstones and cobbles being stored along the base of the cliff.

Photo 13 Flagstones and granite cobbles being stored at the base of the cliffs restricting access to the sections.

Photo 14 Litter in a pool of water at the south end of the SSSI.

However, the justification for this action was that as a result of the bench, wave action was being focused on to the un-protected part of the cliff, eroding the deposits of interest. Effectivly the tipping has preserved the sediments even if they are obscured by 3-4m of debris.

3. Litter and pollution

Incidental tipping continues to be a long-term problem at this site (see Photo 3a and Photo 14) . The casual tipping of material often encourages further fly tipping over the cliff. The site is also located near the municipal tip. It is possible that wind blown litter may also be contributing to this problem. The recent introduction of the Duty of Care, with respect to waste, as part of the Environmental Protection Act 1990, may offer a possible course of action for the problem of windblown litter such as the polythene material seen in Photo 14 (see Section 3.4). This litter seriously detracts from the visual appeal of the site.

Close inspection of the section also reveals that oil or diesel is seeping through the sediments and on to the exposed face (See Photo 7 and Photo 9). It is believed that this has seeped through the sediment from a source further inland. This has the effect of making the site unpleasant for researchers to work on and, as a result, Aberdeen University has stopped taking student parties there. It is difficult to suggest remedies for this problem or to trace the source of the pollution. This should be further investigated.

4. Storage of materials

The use of the levelled area for the storage of materials by the Roads Department does not detract from the scientific value of the site, providing material is not placed against or near the base of the cliffs. Photos 13 and 15 show very clearly that material is in fact stacked against the base of the cliffs, reducing access to the basal sediments.

3.2 List of activities likely to damage the features of special interest at Nigg Bay

7 Dumping, spreading or discharge of any materials. 17 Reclamation of land from sea.

19 Erection of sea defences or coast protection measures, including cliff or landslip drainage or stabilisation measures.

20 Extraction of minerals including sands and gravels.

21 Construction, removal or destruction of roads, tracks, walls, fences, hardstands, banks, ditches or other earthworks, or the laying, maintenance or removal of pipelines and cables, above or below ground.

22 Storage of materials within any part of the site.

23 Erection of permanent or temporary structures, or the undertaking of engineering works, including drilling.

24 Modification of natural features by battering, buttressing or grading the cliff face.

In addition to this list, fly tipping and wind blown litter present an aesthetic problem and possibly a health hazard to users of the site.

Photo 15 Dumped granite kerbstones at the entrance to the SSSI which reduces access and impairs the aesthetic value of the site. The coastal walk is along the base of the cliff in the background of this photograph. Development is the site in conjunction with the coastal walk would require cleaning up and landscaping of the beach area in front of the cliff.

3.3 Interest Zonation

Map 1 and Photo 3a illustrate the area of key interest in the SSSI. This extends from the small stream at the south end of the SSSI along the cliff to the area beyond the large pile of granite cobbles. The entire cliff section is of critical value. Part of the area behind the cliff top is included in the critical area since it forms part of the reserve of deposits. An area 10m wide should also be protected in front of the base of the cliff and no material should be dumped or removed from this critical zone. The storage of materials outwith this zone does not detract from the scientific interest of the site.

3.4 SITE MANAGEMENT RECOMMENDATIONS

3.4.1. Introduction

The aim of this section of the report is to suggest appropriate courses of action to resolve some of the management conflicts and to repair what is a very seriously degraded site. Active management will be required to restore the scientific value, much of which has been temporarily lost. The main areas of concern are:

(i) how to restore and improve the scientific value of the site;

(ii) how best to maintain this value, once restored.

(iii) how to resolve the tipping and storage problems which conflict with the scientific value of the site.

In addition, there is considerable potential to develop the site as an interpretative and educational facility for use by local schools and Aberdeen University, and as an integral part of a coastal walk which starts at Nigg Bay.

RECOMMENDATIONS 3.4.2. RESTORATION AND IMPROVEMENT OF THE SCIENTIFIC VALUE OF THE

a) The litter and fly tipped material should be removed.

Under Part 2 of the Environmental Protection Act 1990 (Waste on Land) all waste disposal sites and operators are licensed, and a breach of licence conditions *is* an offence (Since 1 April 1992). One of the provisions of a site licence e.g. for the tip above the Nigg Bay SSSI is the provision of aftercare and this includes prevention of wind - blown litter.

The Duty of Care (Section 34) Act states that anyone handling waste must "prevent the escape of waste from his control or that of any other person". Therefore if the source of the litter can be traced to the tip, it is the duty of the Waste Regulation Authority (in the case of windblown debris this is likely to be the Environmental Health Department of Aberdeen City Council) to impose the Duty of Care on the polluter. If voluntary clean up of the site was not forthcoming, SNH could pursue this further. Tipping from the cliff top should be discouraged e.g. by placing notices stating "No Tipping, Site of Special

Scientific Interest".

(b) Restoring the exposure along the main face of the site.

This is potentially a problem as extensive removal of vegetation and slumped debris along the main face could enhance erosion and recession of the section. Therefore, any satisfactory solution must develop a scheme to expose the site and increase slope stability. Appendix 1 of this Report contains extracts from the handbook of Earth Science Conservation techniques which offers a range of suggestions for management of unconsolidated slopes.

There are a number of options - the most simple would be to remove by hand or digger, selected areas of vegetation to facilitate study as and when required. Manual labour could involve student or school groups.

On a grander scale, if an interpretative development is planned for the site, a more sophisticated scheme could be developed. One possibility would be to contract an engineering firm to excavate the face to produce a stepped walkway where vertical faces were well exposed at different levels. The main foreseeable problem is that the section lies very close to the road and railway so that excavation towards these features would need to be securely stabilised. Therefore such a development would require to be properly engineered and maintained once in place (gardened and checked for erosion and structural problems). This is a costly proposal. Cost estimates for various engineering operations are given in Appendix 1. There are a

number aspects which make this a favourable option.

(i) The project could be integrated with the coastal walk nearby to enhance the walk and the landscape of the whole area. This could be a jointly funded project involving SNH and the District Council. The development could incorporate information boards and leaflets which the Earth Science Branch would be happy to help in preparing.

(ii) The engineered solution could serve a dual purpose: - as a means of exposing the site and as formal coastal protection of the road and railway. Such a project would be preferable to the current coastal protection of tipped rubbish which is gradually being eroded and removed by the sea and is both polluting to the marine environment and unsightly on a coastal walk. SNH should investigate further the interpretative potential of the site and consult with relevant parties on the best technical and financial solutions.

c) Buried horizon to the south of the site

With respect to the buried horizon of interest an exploratory dig could be carried out to see if it would be possible to re-expose the basal sands and gravels. This would be viable if interested experts were planning a research project on the site. Dr. Alasdair Gemmell of Aberdeen University has carried out previous research on this section, and he is available for consultation on this matter.

3.4.3. MAINTENANCE OF THE SITE ONCE RESTORED.

The nature of the site is such that it will probably always require some active site management such as clearing of debris or vegetation, or clean-up of litter. It is possible that a local management group could be established e.g. through a school or university "Adopt a Site" schemes. This offers a potential solution to the long-term maintenance of the site.

3.4.4. TIPPING AND STORAGE PROBLEMS

The solving of these problems should be related to the overall development plan for the site. If the site is to be enhanced, landscape improvement by the removal of litter should be carried out. The incidental tipping could be discouraged by notices.

The storage of materials is not compatible with the concept of developing and landscaping the site. Therefore it is recommended that if the latter occurs, the granite and slate stored at the site should be moved to a more suitable storage area. Alternatively the area for storage could be fenced off and landscaped as part of the overall plan to enhance the site.

CONCLUSION

Nigg Bay is of national importance in the interpretation of ice movement over North East Scotland and, as such, merits continued protection as a Site of Special Scientific Interest. However, the section is in a poor state and requires careful planning to restore the interest as part of an integrated plan to meet the requirements of both coast defence and earth science conservation. There are a number of options for the development of the site. The main objectives of a development and management plan are:

to preserve the scientific interest and improve access to the section.

to maintain the stability of the cliff face and the integrity of the coastal defences

to explore the development of the site as an interpretative facility as part of a coastal walk.

The site is ideally situated for an interpretative development, being part of a coastal walk yet close to a major centre of population where earth sciences are studied at school and university level. The opportunity exists to transform a degraded and polluted site into a showpiece as part of the new and wider role of Scottish Natural Heritage in integrating science and the environment with the wider enjoyment of the landscape.

SECTION 4 SCIENTIFIC DESCRIPTION

4.1 **Citation**

NIGG BAY SSSI

DISTRICT : ABERDEEN CITY

NATIONAL GRID REF : NJ 966045

OS 1:50000 : 38

1:25000 : NJ 90

HECTARES : 4.72

DESCRIPTION

Geological

The Bay of Nigg section is a classic locality for Quaternary stratigraphy in north east Scotland, illustrating several of the characteristic glacial deposits of the area. The exposure shows six distinct horizons including two till layers and a layer of "morainic" gravels. There has been considerable debate about the number of ice advances this represents. Currently all the sediments except the basal one are thought to relate to the Late Devensian (last) ice sheet. Sands and gravels at the base of the section contain erratics thought to have been transported from Norway by an earlier ice sheet. The Bay of Nigg section has long been recognised as a key reference site for interpreting the glacial history and ice movement patterns in north east Scotland. Moreover it illustrates particularly well the complexity of deposits which may be produced during a single glacial episode.

4.2 GCR Statement on Nigg Bay SSSI.

NIGG BAY

J.E.GORDON

Introduction

The site at Nigg bay (NJ 965046) is a section on the coast immediately to the south of Aberdeen. It shows a succession of till and glaciofluvial deposits and has long been regarded as a classic locality for glacial stratigraphy. The deposits at Nigg Bay have been discussed in the literature for almost a century, with debate focussed on the number of separate ice advances and readvances that may be represented. The deposits have been described by Jamieson (1882b), Bremner (1928), Simpson (1948), Synge (1963), Chester (1975), McLean (1977) and Munro (1968), and also disscussed in more general reviews by Charlesworth (1956), Synge (1956), Clapperton and Sugden (1972, 1977), Murdoch (1977) and Hall and Connell (1991).

Description

The section occurs on the south site of the bay in a suite of deposits infilling the former valley of the River Dee (Simpson 1948, Law 1962, Munro 1986). Borehole evidence from the shore and seismic evidence from the bay show this channel to decend to below -40m OD and extend at least 10km offshore. Six distinctive beds have been recognised in the exposure (Jamieson 1882b, Bremner 1928, Simpson 1948, Synge 1963, Chester 1975.):

6.	Head	0.5-lm
5.	Gravels	l-3m
4.	Red sands with laminated silts/clays	l-2m
3.	Red till	2-3m
2.	Grey till	10m
1.	Sands and Gravels	3-6m

The horizontally bedded sands and gravels are seen only at the southern end of the section and rest on weathered bedrock of granite - gneiss. Jamieson (1882b) described their thickness as 10-20 feet, but only part of this bed has been exposed in recent years. Diagnostic erratics include ultrabasic material which can be traced to the Bellhelvie igneous complex 10km to the north-north west, larvikite and rhomb porphyry andalusite schist (Read et al, 1923, Bremner 1928, 1934, 1939, Synge 2963). Armoured till balls have also been found incorporated in the gravels (E.R. Connell unpublished data). A 5m thick layer of sands and gravels, underlying a till, was encountered at the base of a borehole at Nigg Bay, and this may correlate with the basal sands and gravels seen in the section (Munro 1986).

Unconformably overlying the lower sands and gravels is a tough compact layer of grey till up to 10m thick (bed 2). It contains local erratics predominantly of granite and gneiss and in the lower part the clasts have a south-south-west to north-north east preferred orientation (Synge 1963). This unit correlates with a widely occuring till in the Aberdeen area. There is an upwards transition from the grey till to the red till (bed 3).

Elsewhere in pipeline trench exposures near Aberdeen, these two tills have been seen interbedded (Chester 1974 Murdoch 1975, 1977, Munro 1986). Apart from its colour the red till is distinguished by the presence of Old Red Sandstone conglomerate and volcanic erratics and by a more northerly preferred stone orientation than in the grey till (Jamieson 1882b, 1906, Synge 1963). The source of this material was traditionally held to be the Old Red Sandstone rocks of Strathmore and the volcanic rocks between Lunan Bay and Montrose (Jamieson 1906, Munro 1986). However, heavy mineral studies by Glentworth et al. 1964 point to the floor of the North Sea as an additional source, a possibility in fact admitted by Jamieson (1882). The red till forms part of a suite of red deposits extending along the north east coast of Scotland from south of Stonehaven to north of Peterhead (Jamieson 1882b, Bremner 1928, Synge 1956, McLean 1977, Murdoch 1975, 1977, Hall 1984, Auton and Crofts 1986, Munro 1986).

The sands (bed 4) are reddish brown in colour and contain thin bands of laminated red clays. Southwards these sands merge into and are suceeded by gravels (bed 5) containing the same erratics as the red till. There is no sharp junction between the sands and the gravels, implying that they are probably contemporaneous (Simpson 1948). The gravels are coarse and poorly bedded with lenticles of sand, and in their upper part (bed 6) are highly shattered and cracked typical of a head deposit. Simpson (1948) suggested that sorted coarse and fine fractions in this deposit represent stripes and polygons seen in section. The gravels have

a hummocky surface expression, (termed " morainic" by Simpson 1948), and continue inland and to the south of Nigg Bay where they are associated with kettle holes in the Loirston area (NJ 940010) .

Interpretation

The erratic content of the lowermost sands and gravels led most workers to postulate early glaciation from the north or north west contemporaneous with the presence of Scandinavian ice in the North Sea basin. Bremner (1928) suggested that the lower sands and gravels consisted in part of deposits from his first glaciation from the north that were subsequently reworked by meltwater. Simpson (1948) also thought they were derived from the earliest glacial deposits of the area, which might be associated with Bremner's first ice sheet (Bremer 1928, 1934a, 1938). From the distribution of erratics in north east Scotland, Bremner inferred ice movement during this glaciation from north west to south east across this area; for example near Aberdeen he recorded boulders thought to be derived from the the northern highlands and the Elgin area and, Inverbervie, boulders from Huntly. At the same time Scandinavian ice in the North sea basin blocked the escape of Scottish ice to the east and, as the former approached from the north-east, it impinged on the coast at Aberdeen and Kincardineshire. It was possible that the shelly indigo coloured till in the Ellon area (see Bellscampie) reported by Jamieson (1906) and thought by him to have been transported from the north during the first glaciation was in fact related to the Scandinavian ice moving onshore (Bremner 1928, 1934).

Clapperton and Sugden (1977), however have advocated the need for caution in interpreting igneous and metamorphic "erratics" since more recent work on bedrock geology in north-east Scotland has shown greater diversity of rock types and more widespread distribution of indicator types. Moreover in the light of evidence from the North Sea (Stoker et al. 1985), Hall and Connell (1991) considered it unlikely that Scandinavian ice ever reached the coast of Scotland and that the erratics of presumed Scandinavian origin were ice rafted and subsequently entrained by Scottish ice.

Synge (1956, 1963) also proposed early glaciation from the north east (Scandinavian glaciation) followed by an expansion of Scottish ice (greater highland glaciation) moving SSE along the Aberdeenshire coastal area, but he thought the lower sands and gravels at Nigg Bay were beach deposits derived from the earliest tills rather than glaciofluvial deposits as implied by Bremner (1928) and stated by Read et al. (1923). Possibly the armoured till balls in the lower sands and gravels at Nigg Bay are reworked remnants of an earlier till. Further evidence of an early north west to south east ice movement was provided by Murdoch (1975, 1977) from clast fabric studies of an argillaceous lodgement till found locally in the Aberdeen area but not seen at Nigg Bay. This till was considered (Murdoch 1975, Munro 1986) to be of Late Devensian age (Sutherland 1984a) on the basis of evidence for ice free conditions to the north-west of Aberdeen (Hall 1984), suggesting that this till must have pre-dated the Late Devensian.

There is general agreement among all workers that the tills were broadly conteporaneous. and reflect the interaction of two distinctive ice masses (Jamieson 1882, 1906, Bremner 1928, 1934, 1938, Simpson 1948, 1955, Synge 1956, McLean 1977, Auton and Crofts 1986, Munro 1986, Hall and Connell 1991). The grey till with its local erratics was deposited by ice moving down the Dee valley; the red till with its Old Red Sandstone erratics, was deposited by Strathmore ice moving northeast along the coast. Both Jamieson and Bremner related the two tills to their respective second ice sheets and suggested the local Dee ice had receded before the red till was deposited. Most workers now agree however that the two ice streams coalesced, although the initial flux of ice from the west weakeded and was suceeded by the Strathmore ice (Hall and Connell 1991). Synge interpreted the deposits as the result of his Strathmore-Moray Firth Glaciation of Devensian Age; Simpson and Clapperton and Sugden assigned them to the Late Devensian ice sheet.

The presence of Scandinavian ice in the North Sea basin has often been cited as the reason for the deflection of the Strathmore ice along the east coast of Scotland. Recent studies of offshore sediments however indicate that the Scottish and Scandinavian ice sheets did not coalesce during the Late Devensian. (Jansen 1976, Cameron et al 1987, Sejrup et al 1987, Hall and Bent 1990). Alternative explainations for the flow pattern must therefore be sought. Following the suggestions of Hall and Bent (1990) for the Moray Firth area, one possibility is that a change in flow pattern developed from where ice in the southwest Highlands

emerged from valleys with rigid rock beds on to potentially mobile beds formed by thick sediments of the lowlands and nearshore coastal zone. That such changes can theoretically occur has been demonstrated for the late Weichselian Laurentide ice sheet (Fisher et al 1985).

Influenced by the presence of red clay deposits at Tullos and to the North of Aberdeen, Jamieson envisaged a marine or lacustrine depositional environment for the Nigg Bay tills. However, their undoubted glacial nature was established by later invesigators. Recent ideas suggest they may have been formed by melt out and flow processes (Maclean 1977 , Murdoch 1977).

The origin of the upper gravels (bed 5) has been more contentious. Agassiz (see Jamieson 1874) suggested that the gravel mounds were moraines, a view endorsed by Buckland (1841a). According to Jamieson (Jamieson 1865, 1874, 1882, 1906) they were ice marginal morraines of his third and last glaciation during which ice advanced down the Dee valley and extended just offshore, forming an 8km wide ice front between Nigg Bay and Belhelvie to the north of Aberdeen where another suite of gravel mounds occurs. He also argued that there had been a longer and possibly warmer time interval between the second and third glaciations than between the first two. Bremner proposed a similar interpretation, but placed the northern limit of the ice near the Ythan. He also related the gravels to his third ice sheet, the existance of which he had established elsewhere largely on the basis of suposed marginal meltwater channels.

Charlesworth (1956) included the upper morainic gravels as part of his Highland Glaciation which he recognised as a separate readvance after the last ice maximum, with a local ice limit near Belhelvie. Synge too, thought the gravels were ice-marginal deposits, part of what he called a "kame moraine" marking the limit of a separate glacial event of pre-Loch Lomond Stadial age, the Aberdeen Readvance. Synge correlated this event with the Perth Readvance, but Sissons later linked it with features in the south of Scotland to mark another event known as the Aberdeen-Lammermuir Readvance. However, subsequent re-examination of the evidence has failed to substantiate the existence of these readvances (Sissons 1974c).

In important contributions (Simpson 1948, 1955) was first to perceive that the upper morainic gravels did not represent a seperate readvance but were contemporanoeus with the last ice sheet to cover the area. The gravels contained the same erratics as the red till and were not derived by ice readvance from the west. Moreover he suggested that the gravels were not moraines but were glaciofluvial kames which formed a continous suite of deposits extending from south *of* Nigg Bay to the River Ythan. In places the kames were overlain by till and he proposed that many were of englacial origin. Subsequent work by Clapperton and Sugden (1972, 1975, 1977) and Murdoch (1975,1977) has substantiated Simpson's interpretation. These authors argued that the continuity of glaciofluvial landforms across the supposed limit of the Aberdeen Readvance reflected the integrated subglacial hydrological system of a single ice sheet. Moreover

the continuity of the landforms and the undisturbed nature of the red and grey tills implies contemporaneous deposition and ice decay during a single glaciation. Furthermore, ice wedge casts occur both within and outwith the supposed Aberdeen readvance limit (Sissons 1974, Gemmell and Ralston 1984), and therefore their distribution cannot be used to suport the readvance concept as was suggested by Synge (1963).

The Nigg Bay section is a key reference locality for the interpretation of the glacial history of the eastern Highland boundary area. At least two distinct glaciations can be inferred from the sequence of deposits: a pre-Devensian glaciation represented by the lower sands and gravels, and a Late Devensian glaciation by the overlying succession of tills, sands and gravels. The succession of Late Devensian deposits illustrates particularly well the complexity of depositional environments that may be associated with a single glacial episode. Nigg Bay also has significant potential for further research, for example on the sedimentology of the deposits. In addition further study of Nigg Bay and other multiple till sections will provide useful field evidence of changing ice sheet flow patterns that can be used to test and refine theoretical models of ice sheet growth. For example, Nigg Bay clealy illustrates that an early expansion of inland ice from the mountains and valleys to the west was suceeded by a dominant flow of ice from sources in the south west Highlands.

Conclusion

The deposits at Nigg Bay are important for interpreting the glacial history of the eastern Highland boundary area. They have a long history of research and illustrate the interaction of ice masses from different source areas. Although it has been proposed that the deposits were formed by different ice sheets in a series of separate glaciations, current interpretations ascribe most of the sequence to the Late Devensian glaciation (approximately 18000 years ago).

SECTION 5 REFERENCES

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Several key research papers about the deposits of Nigg Bay are provided in the folder at the back of this report.