C REMEDIAL STRATEGY DOCUMENT

Ardrossan North Shore
Remediation Strategy

September 2021

Ardrossan North Shore Remediation Strategy

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1 INTRODUCTION

In February 2020 EnviroCentre Limited were contracted by Ardrossan North Shore LLP to prepare a Remediation Strategy for the Ardrossan North Shore site. This follows on from a Remediation Options Appraisal developed in March 2020 and detailed in report 9141.

Figure 1 provided in Appendix A details the extent of the area being considered by this report and the proposed preferred masterplan layout; however, this will be subject to change. The site is proposed for a mixed-use redevelopment incorporating a school and housing.

Intrusive investigations were undertaken by EnviroCentre in 2019, 2020 and 2021 and the reports are provided as part of the tender information

The following report is based on the outcome of the Intrusive Investigation and Options Appraisal and details the proposed remediation approach and stage.

2 BACKGROUND

The Ardrossan development site lies on land reclaimed from the sea in two stages, the first stage of reclamation occurred between 1855 and 1897, with the site being extended behind a new sea wall in the 1940's. From the mid 1920's until the 1970's the site was used to produce bitumen and the handling of crude oil, fuel oils and aviation fuel. The site was decommissioned between 1986 and 1989.

A number of previous site investigations have been carried across the Ardrossan development site. The key previous investigations are listed below:

- EnviroCentre Detailed Delineation Investigation; Ardrossan Phase I (Northern and Southern Corners), April 2011 (Ref. 4417);
- Fairhurst; Proposed Developers Package, July 2010;
- EnviroCentre Detailed Delineation Investigation; Ardrossan Phase I, December 2008 (Ref. 3585);
- EnviroCentre Remediation Strategy: Ardrossan Main Site, July 2008 (Ref 3319);
- EnviroCentre Draft Remedial Strategy, Ardrossan Former Shell Bitumen Terminal, November 2006 (Ref 2970);
- Mason Evans, Ardrossan Phase II, Hydrocarbon Remediation Report, June 2006;
- Arup Revised Conceptual Site Model, September 2006 (Ref 118692/PR);
- Arup, Ardrossan Bitumen Terminal Investigation and Remediation Strategy, March 2001;
- Shell UK Ltd, Ardrossan Bitumen Terminal, Risk Assessment Report, May 2000;
- Shell UK Ltd, Ardrossan Bitumen Terminal, Factual Report Volume 1, Text and Figures, 1999;
- Raeburn Drilling & Geotechnical, Report on Ground Investigation, July 1995; and
- Fairhurst, 20800 Shell Bitumen, Ardrossan, Treatment of Contamination, July 1991.

The previous industrial use of the site has resulted in a legacy of ground contamination. The significant contamination issues historically identified at the site are primarily related to hydrocarbon contamination of soils, and the presence of a free phase floating hydrocarbon layer on groundwater at the site. In addition, elevated metals are also noted to be present in soils.

2.1 Site Investigation Findings

2.1.1 Human Health Assessment

The site investigation incorporated assessment of human health based on a "Residential With Plant Uptake Use" (RES) and a Public Open Space (Residential Use). Given that the development layout is not confirmed the Remedial Options Appraisal adopts the "Residential With Plant Uptake" Scenario for the whole site area. This is considered to be the most conservative generic land use scenario.

The following provides a summary of the key findings with respect to chemical parameters.

Asbestos

Asbestos was identified within 24 of the 155 samples tested. The asbestos identified included amosite, chrysotile and crocidolite. The assessment incorporated a screen only (presence/absence), no quantification has been undertaken at this stage.

The majority of asbestos was identified within the top metre of the site, which is deemed to be the soil profile of risk of generation of dust and therefore potential for asbestos exposure as part of the proposed development. There was asbestos identified up to depths of 3m in specific areas, which will require to be considered as part of any construction works involving excavation to depth.

Heavy Metals

The majority of metal/metalloid analytes did not exceed the RES assessment criteria, with the exception of arsenic, lead and nickel.

- 3 of the 155 samples analysed recorded slight exceedances of the residential arsenic criteria. All sample exceedances were within the top metre of the site.
- of the 155 samples recorded nickel concentrations in excess of the RES criteria, 2 out of 3 of these samples were located within the upper metre of the soil profile.
- 16 of the 155 samples recorded concentrations of lead in excess of the RES criteria. The samples depths ranged from within the top metre to up to 2m depth.

Total Petroleum Hydrocarbons (TPH)

A total of 33 individual samples of the 155 soil samples analysed recorded exceedances for specific TPH carbon band fractions. The fractions that recorded exceedances included:

- Aliphatic TPH C8-C10 (22 samples recorded exceedances);
- Aliphatic TPH C10-12 (25 samples recorded exceedances);
- Aliphatic TPH C12-C16 (12 samples recorded exceedances);
- Aromatic TPH C10-C12 (3 samples recorded exceedances);
- Aromatic TPH C16-C21 (5 samples recorded exceedances);
- Aromatic TPH C21-C35 (17 samples recorded exceedances);
- Aromatic TPH C35-44 (1 sample recorded exceedances);

Semi-Volatile Organic Compounds (SVOCs)

The majority of SVOCs did not record exceedances in relation to the RES criteria, however specific Polyaromatic Hydrocarbon (PAH) compounds were elevated above the assessment criteria including:

- Naphthalene (11 samples out of 162);
- Benzo(a)anthracene (9 samples out of 162);
- Chrysene (4 samples out of 162);
- Benzo(b)fluoranthene (11 samples out of 162);
- Benzo(a)pyrene (8 samples out of 162);

- Indeno(1,2,3-cd)pyrene (1 sample out of 162);
- Dibenz(a,h)anthracene (1 sample out of 162 samples).

Human Health Summary

Based on the RES assessment the following significant Source-Pathway-Receptor (SPR) linkages were identified:

- Impact to Human Health from TPH Fractions Via Inhalation of indoor vapours;
- Impact to Human Health from TPH Fractions, PAHs and Heavy Metals via ingestion of soil, inhalation of indoor dust and indoor and outdoor dermal contact;
- Impact to Human Health from inhalation of asbestos fibres.

Figure 3 provided in Appendix A details the location of the human health exceedances.

2.2 Water Environment Risk Assessment

The approach to the Water Environment risk assessment has been undertaken in line with the approach defined in SEPA WAT PS10. As the risk assessment is in relation to historic land contamination the following principal receptors have been identified with respect to both hazardous and non-hazardous contaminants:

- Surface Water – Adjacent Firth of Clyde (Screening Criteria Marine Environmental Quality Standards – EQS).
- Groundwater Resource – 50m from source boundary (Screening Criteria Resource Protection Values- RPVs)

It is noted that the principal contaminant of concern at the site relate to TPH. As such, where free phase product is identified the product itself is identified as a source zone (to determine the boundary for assessing groundwater resource impact) and also evidence of potential significant risk of pollution to the water environment,

In relation to EQS for TPH there is a requirement for no sheen to be present to surface water. There is no quantitative EQS or RPV values for TPH fractions. Related contaminants such as BTEX and PAHs do have these assessment criteria, and these have been adopted as potential indicators of significant risk of pollution. In addition, following discussion with SEPA the laboratory detection limit for individual TPH fraction has been adopted as an indicator of potential impact.

The findings of the risk assessment from the groundwater monitoring exercise are detailed below;

2.3 Free Phase Product

Free phase product was identified in BHs 1A, 2, 4, 7 and 9. These boreholes were all located to the southern portion of the site and were in the section of the site located behind the original sea wall (as detailed in Figure 4 provided in Appendix A).

This is consistent with historic assessment of the site which identified the sea wall as constraining groundwater, with groundwater levels behind the seawall noted to be shallower than those on the seaward side of the wall.

2.4 Results Screening

2.4.1 Heavy Metals

None of the samples recorded exceedances of heavy metal parameters with respect to RPV criteria.

Elevated concentrations of some heavy metal parameters with respect to EQS were identified at a number of boreholes as detailed in the summary table provided in Appendix C.

The locations of exceedances were:

- BHD1A (Zinc);
- BHD10 (Copper and zinc)
- BHD11 (Chromium, copper, lead and zinc);
- BHD8 (Copper and zinc);
- BHD9 (Lead and zinc);
- BHD7 (Lead and zinc);
- BHD5 (Copper and zinc);
- BHD16 (Zinc);
- BHD3 (Chromium, copper and zinc).

Of the concentrations recorded, the highest exceedance in relation to the EQS was the lead value recorded at BH11 which was 7.8ug/l versus an assessment criteria of 1.3ug/l (6 times the criteria).

It is noted that the surface water assessment allows for dilution on initial release to the surface water, and therefore an exceedance noted in the groundwater does not necessarily represent significant risk to the surface water.

Previous assessment of the dilution potential in the surface water generated a very conservative dilution potential of 2.37 upon initial release to the Firth of Clyde (copy of report provided in Appendix B). This would address all these noted exceedances barring the lead sample at BH11.

2.4.2 BTEX

None of the samples recorded concentrations of BTEX above the laboratory detection limit.

2.4.3 VOCs

None of the samples recorded concentrations of VOCs above the laboratory detection limit.

2.4.4 TPH

Elevated concentrations of TPH with respect to the limit of detection were identified at:

- BHD1
- BHD7;

- BHD8;
- BHD9;
- BH10D
- BHD11;
- BHD12;
- BHD15;
- BHD18; and
- BHD19.

The elevations were generally recorded for the C10-C16 carbon chain lengths.

No TPH above detection limit was identified within the following boreholes;

- BH3;
- BH5;
- BH6;
- BH14;
- BH16;
- BH17;
- BH20.

2.4.5 SVOCs and PAHs

Elevated concentrations of SVOCs and PAHs in relation to EQS criteria were identified for the following borehole locations (note the LOD for 2,4-Dichlorophenol, fluoranthene and benzo(a)pyrene were greater than the EQS values, therefore for these parameters only samples which have recorded concentrations above the LOD are listed).

- BHD12 (naphthalene);
- BHD11 (naphthalene, anthracene, fluoranthene);
- BHD9 (fluoranthene, anthracene);
- BHD7 (fluoranthene, anthracene).
- BHD18 (fluoranthene).

No elevations were recorded with respect to the RPV.

The elevations of PAHs were noted in conjunction with those locations which recorded TPH exceedances.

2.5 Water Environment Risk Summary

The investigation has identified evidence of potential significant impact to the Water Environment (potentially both groundwater resource and the surface water) related to the presence of free phase product at the site and related elevated dissolved TPH and PAH concentrations. The locations of the exceedances are generally noted on the landward side of the old sea wall, however there is evidence of TPH impact on the seaward side of the wall. One of these locations also recorded elevated lead concentrations. Figure 5 and 6 in Appendix A details the locations of the identified issues.

3 REMEDIATION STRATEGY

3.1 Remedial Targets

The following remedial target criteria are proposed for the project.

Human Health

LQM/CIEH GAC for Residential Use with Plant Uptake (for lead the median C4SL value for Residential with Plant Uptake is proposed).

Water Environment

Leachate testing for inorganic contaminations with sample results assessed against EQS, RPV and MRV levels

For TPH impact to the Water Environment a Total TPH concentration threshold of 1,000mg/kg (threshold value for hazardous material) will also be applied as an initial target criteria value in relation to remediation validation and informing soil excavation locations and depths. It is acknowledged that depending on the carbon fractions present within the TPH then there may be a risk to the water environment from contaminants (particularly lighter fraction hydrocarbons) at a concentration lower than this initial screening criteria.

As noted in the CLAIRE Petroleum Hydrocarbons in Groundwater guidance document –

"The heavier fractions (compounds >20 carbon atoms) are very unlikely to contain hydrocarbon compounds with appreciable aqueous solubility. These compounds are therefore unlikely to be of interest in a hydrogeological risk assessment, except in certain geological environments such as karst, where suspended solid and/or LNAPL may potentially be transported over significant distances. These risks should be considered on a site-specific basis, although research (Schwarz et al., 2011) suggests the likelihood that karstic transport of high molecular weight components, such as PAHs, causing an unacceptable impact on groundwater is low."

When considering the groundwater results from the site there was no BTEX concentrations identified above the laboratory detection limit with no concentrations of TPH fractions for both aromatic and aliphatic TPH fractions below carbon banding C8 found above the detection limit. Therefore these fractions are not considered to represent a significant risk at the site.

As defined in Table 5.1 of the CLAIRE guidance the following TPH fractions (which have been identified above detection limit within groundwater at the site) are noted to have the following relative mobility in groundwater (listed from most to least mobile):

- Aromatic EC8-10 – High mobility
- Aromatic EC10-12 – Moderate mobility
- Aromatic EC12-16 – Moderate mobility
- Aliphatic EC8-10 – Low mobility
- Aliphatic EC10-12 – Low mobiity
- Aromatic EC16-21 – Low mobility
- Aliphatic EC12-16 – Very low mobility
- Aliphatic EC1-21 – Very low mobility
- Aromatic 21-35 – Very low mobility

On this basis it is considered that focussing on the following additional indicator parameters in addition to the initial 1,000mg/kg screening criteria will allow for consideration of presence of more mobile (moderate to high mobility) hydrocarbon contamination. The proposed additional indicator parameters are detailed in the table below. In all cases the site investigation has identified limited numbers of samples which recorded concentrations above the limit of detection. As such the limit of detection is therefore proposed as the validation criteria.

TPH Fraction	Indicator Parameter	Assessment Criteria	No of Exceedances from SI
Aromatic EC8-10	Ethylbenzene	0.01mg/kg (limit of detection)	13 out of 155 samples
Aromatic EC10-12	Naphthalene	0.5mg/kg (limit of detection)	27 out of 155 samples
Aromatic EC12-16	Acenaphthylene	0.5mg/kg (limit of detection)	12 out of 155 samples

In addition, removal of visually discernible free phase product layer where practicable will be undertaken, It is envisioned that the excavation will allow for assessment of visible sheens over a period of at least a month to allow for consideration of recharge, tidal and precipitation influence.

On completion of the intrusive remedial works it is proposed that validation monitoring be carried out by EnviroCentre at the site to review post remediation gas and groundwater conditions (minimum of 6 rounds). As an initial target criteria it is proposed that the laboratory detection limit for TPH and PAHs are adopted for assessment of groundwater samples.

Further iterations of the remedial targets may be developed in conjunction with the Contractor if they identify alternative treatment options (e.g. solidification and stabilisation)

Treated materials will be validated by EnvioCentre on a minimum frequency of one sample per 100m3 of soil.

3.1.1 Remediation Criteria Assessment Criteria

The following table details the proposed assessment criteria which defines the target for the remediation works and suitability requirements for imported materials. This criteria has been developed on the basis of the treatment approach being designed to reduce the contaminant concentration within the soil, should the contractor propose a stabilisation/solidification approach as part of their treatment methodology then they will require to assist in development of suitable target criteria.

Table 3-1 Remediation Target Criteria

Parameter	Criterial (mg/kg)
Arsenic	37
Boron	290
Cadmium	11
Chromium (III)	910
Chromium (VI)	6
Copper	2400
Elemental Mercury	1.2
Inorganic Mercury	40
Nickel	180
Selenium	250
Vanadium	410
Zinc	370
Benzene	0.17
Toluene	290
Ethylbenzene	0.01
o-xylene	140
m-xylene	140
p-xylene	130
TPH Total*	1,000
TPH Aliphatic EC 5-6	78
TPH Aliphatic EC 6-8	230
TPH Aliphatic EC 8-10	65
TPH Aliphatic EC 10-12	330
TPH Aliphatic EC 12-16	1,000
TPH Aliphatic EC 16-35	1,000

TPH Aliphatic EC 35-44	1,000
TPH Aromatic EC5-7	140
TPH Aromatic EC 7-8	290
TPH Aromatic EC 8-10	0.01
TPH Aromatic EC 10-12	0.5
TPH Aromatic EC 12-16	0.5
TPH Aromatic EC 16-21	540
TPH Aromatic EC 21-35	1,000
TPH Aromatic EC 35-44	1,000
Acenaphthene	510
Acenaphthylene	0.5
Benz(a)anthracene	11
Benzo(a)pyrene	2.7
Benzo(b)fluoranthene	3.3
Benzo(ghi)perylene	340
Benzo(k)fluoranthene	93
Chrysene	22
Dibenz(ah)anthracene	0.28
Fluoranthene	560
Fluorene	400
Indeno(123-cd)pyrene	36
Naphthalene	0.5
Phenanthrene	220
Pyrene	1,200
Asbestos	<0.01%

*the overall TPH concentration in the samples requires to be lower than 1,000mg/kg as the initial target, there is also a secondary target criteria for specific TPH bandings with respect to human health.

3.2 Summary of Remediation Stages

It is considered that the following stages will be undertaken by the contractor as part of the enabling works.

- Obtain appropriate licences to undertake the remedial works;
- Segregate existing stockpiles located on the site and undertake treatment for the residual contaminated fraction to achieve the assessment criteria detailed in Section 3.1.1;
- Remove free product present on groundwater via skimming to a point of no discernible sheen. Treatment to allow for appropriate disposal of free product and water arisings;
- Excavation works to remove contaminated soils for treatment (including excavation, segregation and temporary stockpiling of clean overburden where present);
- Note the Fairhurst Phasing Drawing 137240/7100 which details the phasing sections of the site. The preliminary information within the tender details the programme for site work. The contractor should design the earthworks to ensure the Campus site contaminated materials and backfilling is completed to meet the programme. The phasing plan details an area of the site which will be available for treatment over a longer time period.
- Treatment of soils to meet Remedial Target Criteria detailed in Section 3.1.1. Proposed treatment methods to be provided by the contractor. Previously bioremediation has been effective at the site, however alternative methods will be considered. The contractor should consider the programme and target requirements in development of their treatment proposals;
- Onsite environmental monitoring during the works This will incorporate weekly boundary monitoring for VOCs using tenax tubes (minimum of 6 locations) and weekly dust monitoring (including asbestos assessment at minimum of 6 locations)
- Provision of dust mitigation and odour suppression during the works.
- Infilling of site to return it to existing ground levels with suitable soils that meet the earth

3.2.1 Segregate Existing Stockpiles and Complete Bioremediation

The previous phase of remediation at the Ardrossan North Shore site incorporated excavation and bioremediation of soils. The remediation process itself is still to be completed, with the stockpiles being present on the seaward side of the site. The stockpiles therefore form a constraint to progressing the next stage of remedial works.

An investigation of the existing stockpiles was undertaken in January 2021. An investigation report is provided as part of the tender information.

As part of the enabling works the following works are required:

- Movement of existing stockpiles to allow segregation of material for reuse (estimated to be 27,600m^3), completion of bioremediation (estimated to be 3,400m^3), use in specific areas of the development (estimated to be 3,400m^3).
- As part of the movement EnviroCentre will undertake testing to classify a further 2,489m^3 of material. This material should therefore be quarantined until it can be confirmed what further remedial measures (if any) are required. Assessment of Soil Conditions Beneath Stockpile and Suitability of Existing Treatment Platforms

There has been extensive investigation of the site to review the soil and groundwater condition and develop the remedial strategy. Specific regions of the site could not be fully accessed due to the presence of stockpiled and therefore there is a requirement to complete investigation works in these discrete areas.

As part of the above remedial works, assessment of the soils beneath the stockpiles to allow for completion of the 20m grid site investigation will be undertaken by EnviroCentre. This will follow the approach adopted for the investigation to date and allow for finalisation of the proposed intrusive remediation areas.

During this investigation the condition and integrity of the two existing soil treatment platforms can be reviewed. These platforms can be utilised for the next stage of soil treatment of soils from the site, however they are within the Campus area and therefore works on these areas would require to be completed in line with the programme. There may be a requirement to repair/upgrade sections of the platforms prior to receiving soils from the future remediation phases.

3.2.2 Intrusive Remediation Works and Phasing

Based on the current understanding of the site the next stages of remediation works will incorporate intrusive excavation to address the following areas of the site:

- Areas of Known Free Product;
- Areas of Soil Considered to Present risk of Ongoing Release of Hydrocarbons and PAHs to the Water Environment/Potential Impact to Human Health Via Vapour Release;

The intrusive works will incorporate the following stages:

- Removal of free product where practicable;
- Excavation and treatment of impacted soils to meet target criteria for re-use. The method for treatment to be proposed by the contractor. Historically bioremediation has proven to the be effective. The contractor should consider the overall enabling works programme and target criteria to identify the preferred proposed treatment methodology.

The intrusive works will incorporate a validation process in relation to both confirming appropriate removal of free product and contaminated soils, and the confirmation of treatment being effective.

The validation works will be undertaken by EnviroCentre.

For the purposes of the client programme there are portions of the site that have specific timelines for clearance of soil and groundwater contamination and release of the site for development.

Free Product

The areas of known free product are detailed on Drawing 171301-0.15. These represent borehole investigation points, as such it is assumed that free product extends between these points.

The contractor requires to remove free product from groundwater with validation point being no discernible sheen. EnviroCentre will be responsible for the validation assessment.

The contractor should allow for all requirements in relation to disposal of pumped water and free product.

Soil Excavation

Drawing 173958-GIS012 in Appendix A details the known areas and depths of contaminated materials for soil excavation for treatment/disposal. The principal driver for the soil excavation is to address ongoing impact to the Water Environment. The excavation areas have been initially identified based on total TPH concentrations recorded within the soil samples, with samples recording total TPH values of

over 1,000mg/kg and limit of detection for proposed indicator compounds being identified as areas for excavation.

The contractor should allow for excavation and treatment of contaminated soils (including excavation of overburden and segregation for reuse).

Validation samples from the base and sides of the excavations will be collected on a 20m grid basis by EnviroCentre. The results of these will be assessed with the proposed target criteria to confirm that the excavation extents have appropriately removed the contamination sources. Where exceedances are present then the excavation will be extended, and further validation sampling subsequently undertaken.

Soil Remediation

The treatment works should be designed to meet the criteria provided in Section 4.1. The contractor will identify their proposed remediation methods. Should the contractor propose alternative target criteria (i.e. should solidification/stabilisation be considered for the treatment process for example) then the contractor will allow for engaging with the regulator to agree revised criteria.

Treated soils will be tested by EnviroCentre on a frequency of 1 sample per 100m3 for validation purposes, with the results compared against the proposed target criteria. Where the samples pass then it is considered that the 100m3 of soil will be suitable for re-use (and if they fail further remediation will be required).

The excavation and re-use of passed soil will be observed and assessed visually to ensure that the sample was representative of the 100m3 mass. If deemed during these works that there is a portion of the material that differs in quality then this will be segregated and retained for further testing/remediation.

Monitoring During Works

Given that the intrusive works will incorporate handling and movement of contaminated soils and groundwater monitoring works will be undertaken during the works to assess the conditions on the boundary of the site with respect to production and release of volatile contaminants. This will incorporate weekly assessment utilising tenax tubes (a total of 9 located on the site boundary) with results being provided to the Council.

In addition, boundary dust monitoring (including asbestos monitoring) will be undertaken on a weekly basis.

Odour assessment and PID assessment will be carried out on the boundary on a daily basis with mitigation measures being incorporated as required.

3.2.3 Site Infilling

The infilling of the excavations are to be carried out in line with the earthworks specification for the site.

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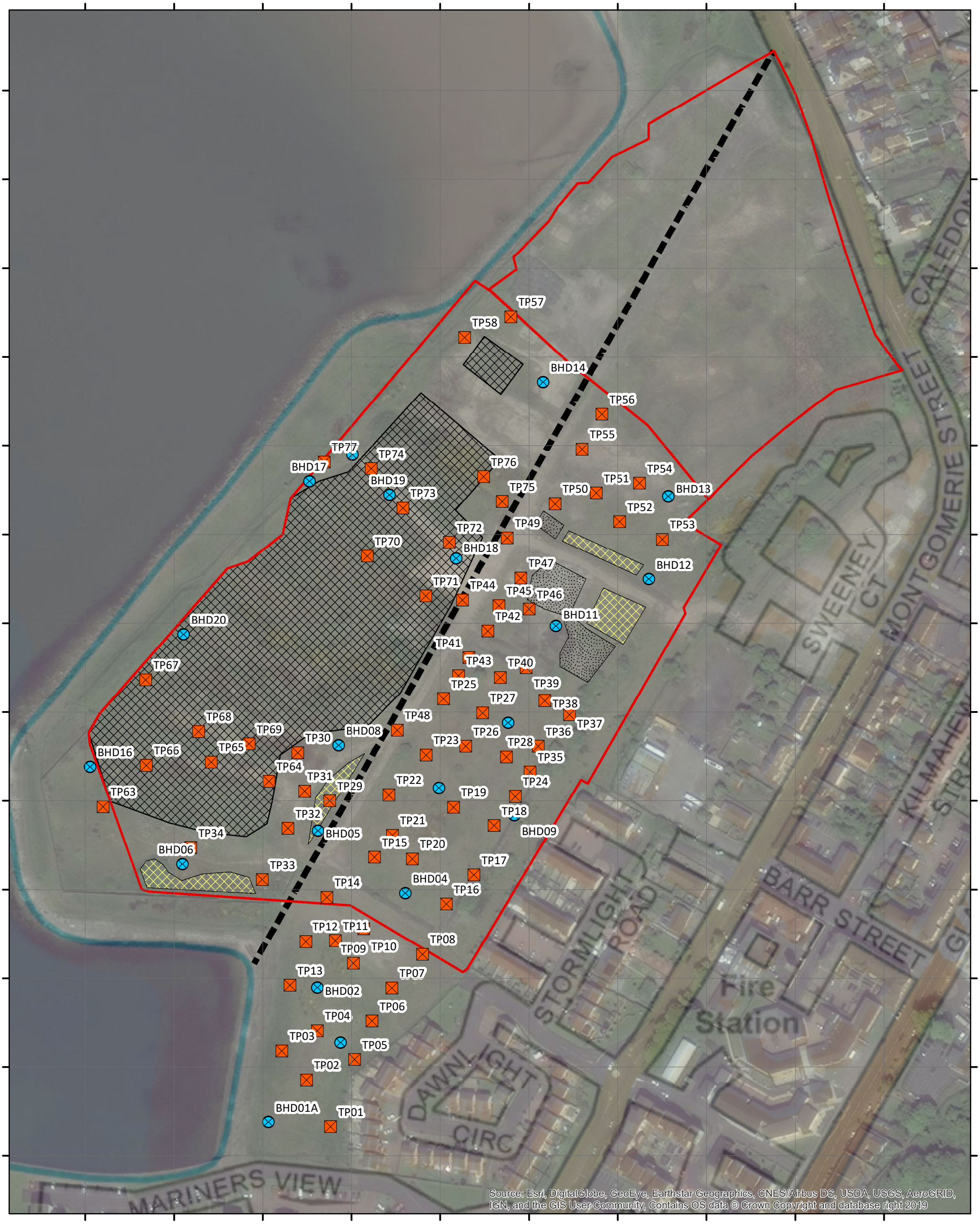
APPENDICES

A FIGURES



Do not scale this map

Trial

Concrete and Rubble Heaps

Uneven

Site Boundaries

Indicative Line of Old Seawall

Approximate Area of Stockpiles

Revisions

B: Updated to show July 2019 locations

Client	North Ayrshire Council
Project	Ardrossan
Title	Site Investigation Plan
Status	Final
Drawing No.	171301-001
Revision	B
Scale	1:2,000
A3	
Date	17 May 2019
Drawn	NC/FR
Checked	FR
Approved	GD

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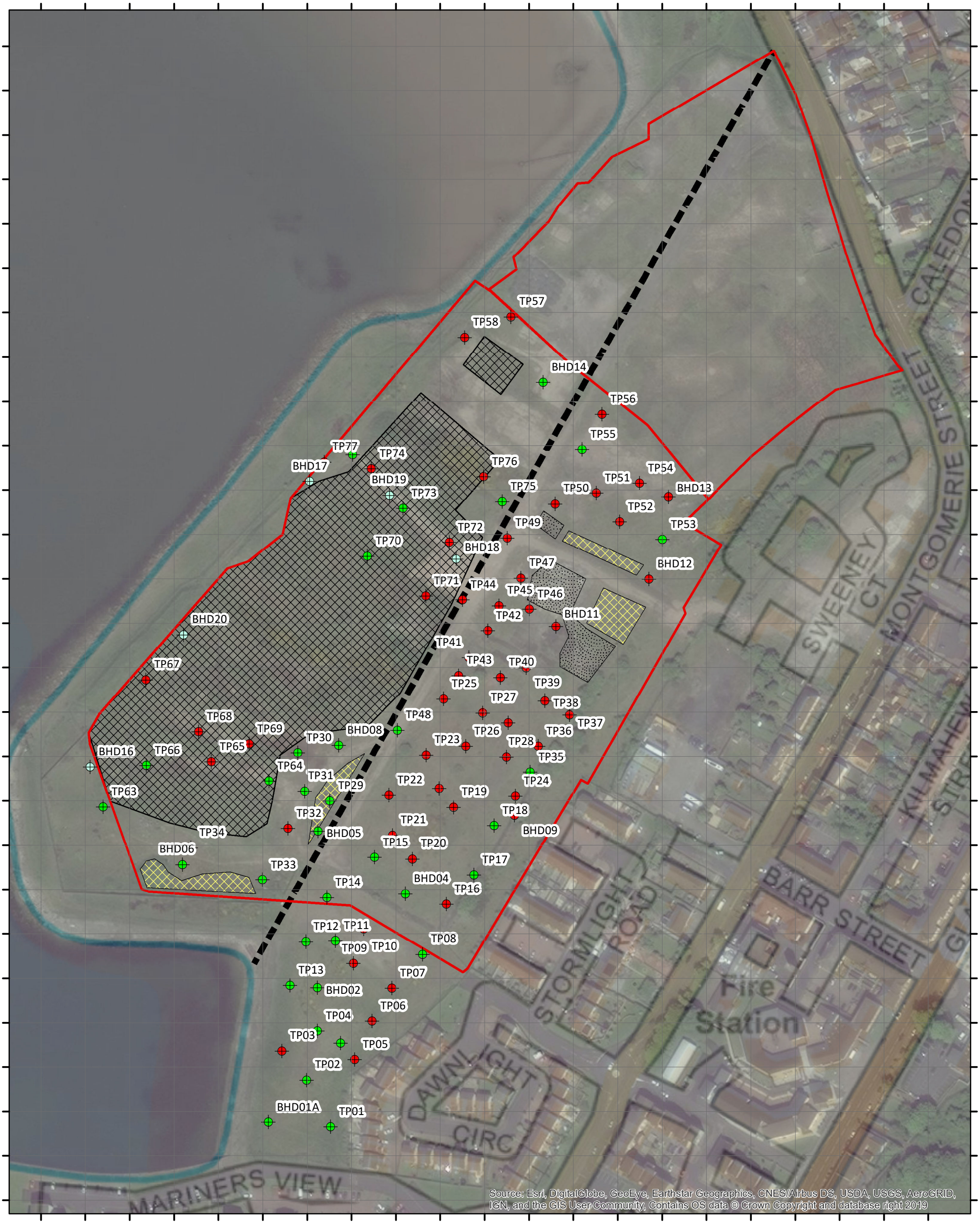

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Legend

- Exceedance of Residential GAC
- No Exceedance of Residential GAC
- Results Pending
- Site Boundaries
- Indicative Line of Old Seawall
- Approximate Area of Stockpiles
- Concrete and Rubble Heaps
- Uneven Ground

Revisions

A. Updated to show July 2019 locations

Client	North Ayrshire Council
Project	Ardrossan
Title	Residential GACs: All Locations With Exceedance
Status	Working
Drawing No.	171301-010A
Revision	A
Scale	1:2,000
A3	
Date	30 August 2019
Drawn	NC
Checked	GD
Approved	GD

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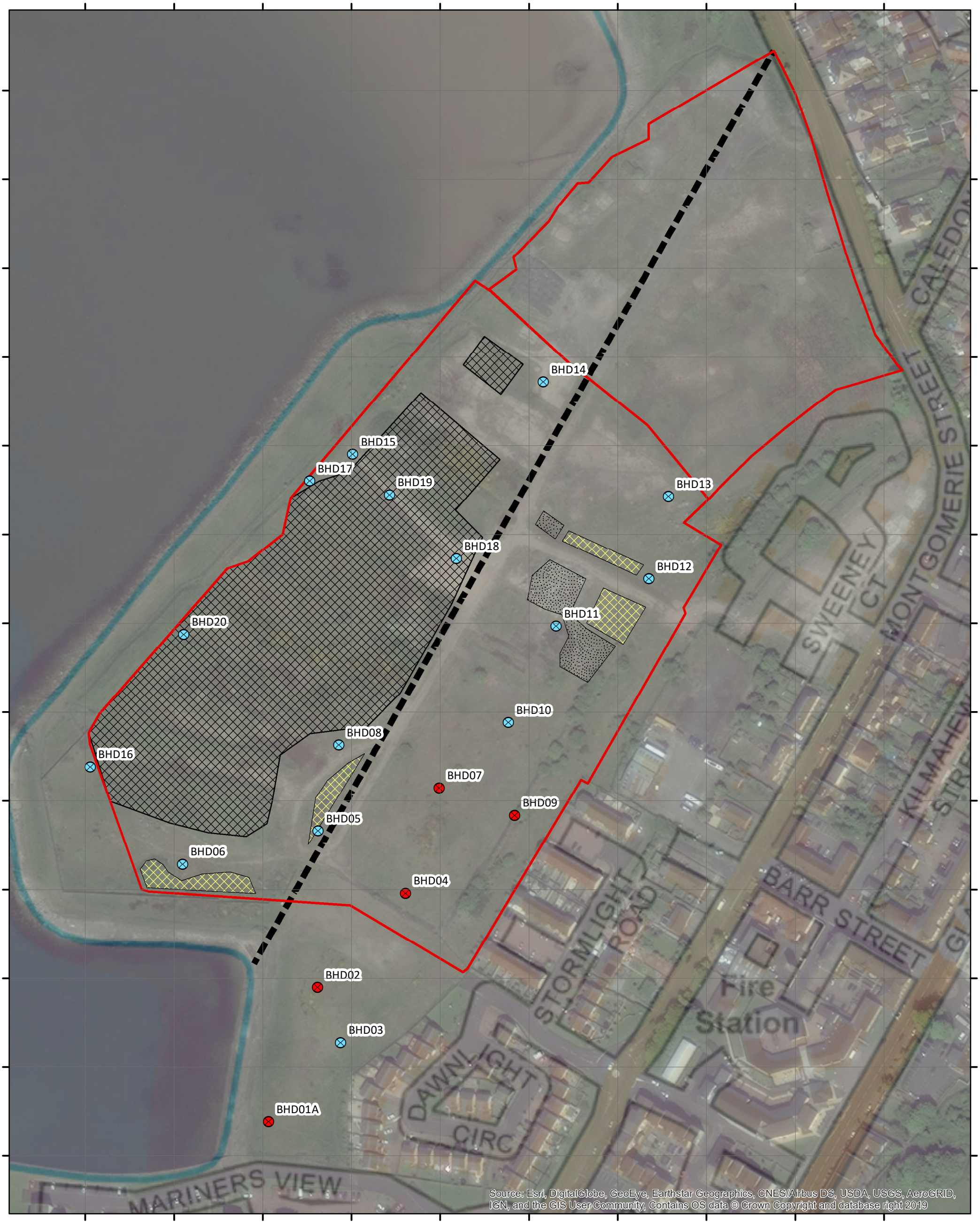
Fax: 0141 341 5045



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Legend

- No Obvious Product Present
- Product Present
- Approximate Area of Stockpiles
- Concrete and Rubble Heaps
- Uneven Ground
- Indicative Line of Old Seawall
- Site Boundaries

Revisions

B: Updated to show July 2019 locations

Client	North Ayrshire Council
Project	Ardrossan
Title	Boreholes Containing Product
Status	Final
Drawing No.	171301-015
Revision	B
Scale	1:2,000
A3	
Date	19 Feb 2020
Drawn	NC
Checked	FR
Approved	GD

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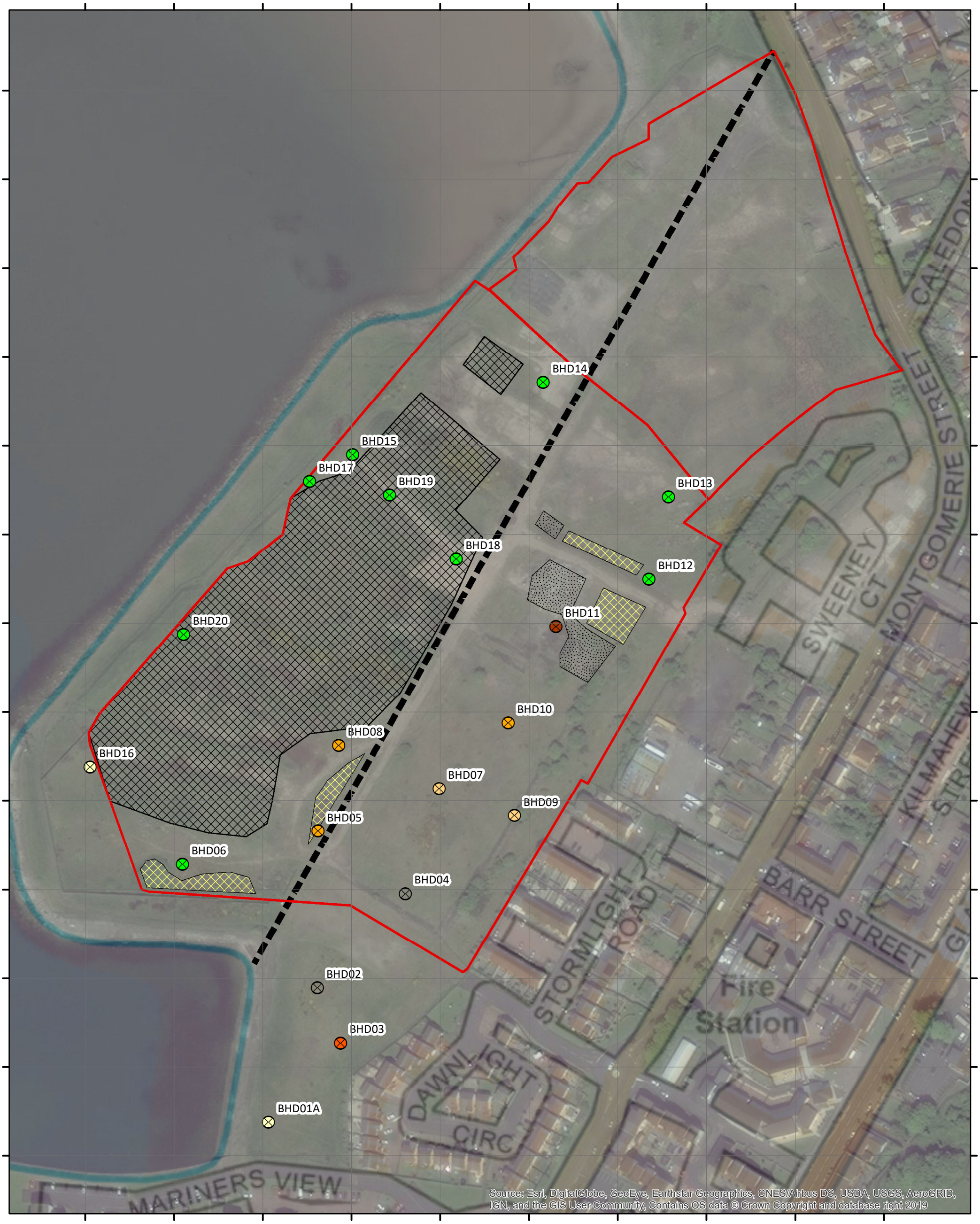
Fax: 0141 341 5045



Do not scale this map

Legend

- Lead and Zinc
- Copper and Zinc
- Chromium, Copper
- Chromium, Copper, Lead and Zinc
- Boreholes Containing
- Approximate Area of
- Concrete and Rubble
- Indicative Line of Old

Client	North Ayrshire Council
Project	Ardrossan
Title	Exceedances of Metals Within Groundwater
Status	Final
Drawing No.	171301-016
Revision	-
Scale	1:2,000
A3	
Date	12 March 2020
Drawn	NC
Checked	FR
Approved	GD

ENVIRO Centre
Craighall Business Park, Eagle Street, Glasgow, G4 9XA
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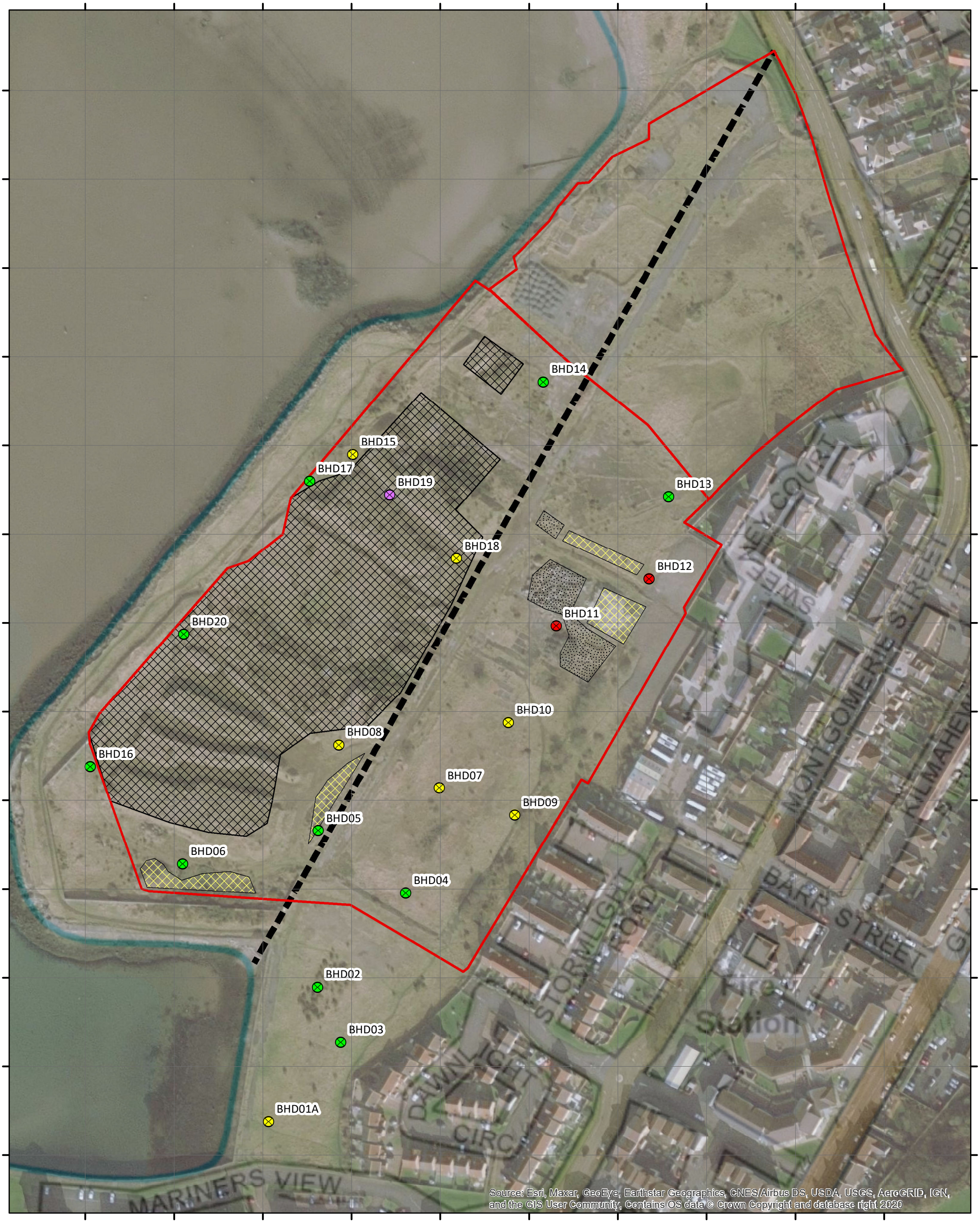
Fax: 0141 341 5045



Do not scale this map

Legend

- Aliphatic C5 - C35; Aromatic C5 - C35
- Aliphatic C5 - C35
- Aromatic C5 - C35
- None Detected
- Approximate Area of Stockpiles
- Concrete and Rubble Heaps
- Uneven Ground
- Indicative Line of Old Seawall
- Site Boundaries

Client	North Ayrshire Council
Project	Ardrossan
Title	TPH Identified Wtithin Groundwater
Status	Final
Drawing No.	171301-021
Revision	-
Scale	1:2,000
A3	
Date	17 Nov. 2020
Drawn	NC
Checked	FR
Approved	GD

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Tel: 0141 341 5040
Fax: 0141 341 5045

Do not scale this map

Legend

SI Location & Remediation Depth

- 0 - 1.5m
- 0 - 3m
- 1.5 - 3m
- Site Boundaries
- Indicative Line of Old Seawall

Notes
1. SI Locations where remediation is not considered necessary are not shown.

Revisions
A. Update in depths for TP47, TP52, BHD12, BHD13, TP66, TP70, TP71, TP72.

Client
North Ayrshire Council

Project
Ardrossan
Remedial Strategy

Title
Remediation Depths

Scale
1:2,000 @A3 0 10 20 40 60 Metres

Status
Final

Drawing No.	Revision	Date
171301-018	A	18 Nov. 2020
Drawn	**Checked**	**Approved**
NC	GD	GD

Rev	Date	Amendment	Initials
-	-	-	-

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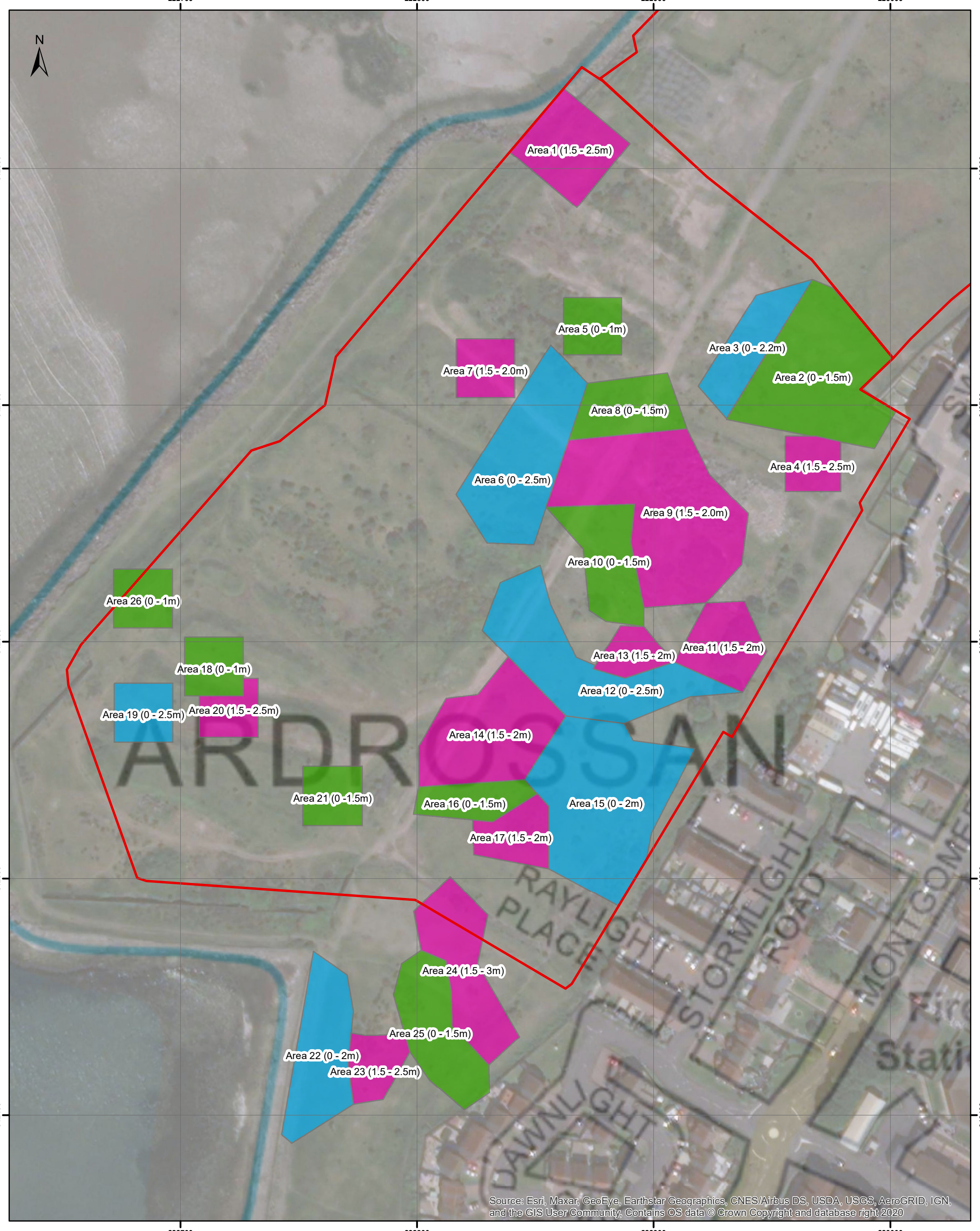

Do not scale this map

Legend

Site Boundaries

Excavation Depth

- 0 - up to 1.5m
- 0 - up to 2.5m
- 1.5 - up to 3m

Notes
1. Site Boundary is approximate.

Client
North Ayrshire Council

Project
Ardrossan
Remedial Strategy

Title
Excavation Areas & Depths for Remediation

Scale
1:1,500 @A3 0 5 10 20 30 Metres

Status
Final

Drawing No.	Revision	Date
173958-GIS012	-	17 Sep 2021
Drawn	**Checked**	**Approved**
FR	GD	GD

Rev	Date	Amendment	Initials
-	-	-	-

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B PREVIOUS SURFACE WATER DILUTION ASSESSMENT

Ardrossan North Bay

Remediation Section 1
Surface Water Risk Assessment Addendum

December 2013

EnviroCentre Document No.	5842
EnviroCentre Project No.	13284j
Status	Final
Project Manager	Graeme Duff
Project Reviewer	Campbell Stewart
Date of Issue	December 2013
Filename	*document1*

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Project Name
Report Title

Table of Contents

Appendices

1. INTRODUCTION

EnviroCentre have compiled a close down report for the Ardrossan Remediation Section 1, as detailed in Report No 4529 dated August 2013.

The report included assessment of soil results from the sides and base of excavations against generated assessment criteria to establish potential risk to the Water Environment, principally the Firth of Clyde. The assessment utilised the Remedial Target Worksheet approach to allow for dilution in the groundwater body prior to release to the surface water.

The assessment has identified that for specific contaminants dilution within the surface water body requires to be considered. The assessment identified that a maximum dilution factor of up to 9.3 is required to address an individual concentration hotspot of hydrocarbons in the Area of TP70. As part of the assessment the cumulative effect of elevations was also considered, which indicates on a site wide basis a dilution of up to 6 .12 times would be required to allow the 95% Upper Confidence Level value for contaminants to meet the water environment assessment criteria.

This addendum report is compiled to generate a modelled dilution factor for the site. The assessment is undertaken in line with WAT –SG-11 utilising the Environment Agency's EL SID model for initial dilution calculations.

2. SITE SPECIFIC CONSIDERATIONS

It is noted that the WAT-SG-11 guidance document is fundamentally related to the modelling of coastal and transitional discharges related to proposed outfalls. As part of this the document details that SEPA's requirements for initial dilution set at 95%iles are:

- X100 for primary treated sewage effluent
- X50 for secondary treated sewage effluent (>100 p.e.)
- X50 for industrial effluents dependent on treatment etc (case specific).

The mechanism for release to the surface water at Ardrossan is groundwater release. As such none of the above scenarios are considered to be reflective of the processes at Ardrossan.

As part of the detailed delineation exercise borehole water level monitoring was undertaken at four borehole locations on the site as detailed in EnviroCentre Report No 3585 dated December 2008. This indicated that there was no tidal influence on groundwater. Observations made during the remediation works also did not record variations in groundwater depth with tidal cycles. On this basis there is not considered to be direct continuity of the groundwater at the site to the Firth of Clyde. Groundwater migration from the site is further restricted by presence of a former sea wall through the centre of the existing site area.

It is noted that the area of the Clyde located immediately adjacent to the remediation area varies in terms of water depth throughout the tidal cycle, ranging from dry to several metres of water. The site has undergone a range of investigations over a 15 year period which identified free product presence on the groundwater at the site across the area targeted by the first phase of remediation, stretching throughout the majority of the former bitumen terminal site. Throughout this period of known contamination presence there has not been evidence of significant hydrocarbon release to the Firth of Clyde. In addition the remedial works on site were carried out over a 7 month period (November 2010 to July 2011). During these works no evidence of hydrocarbon release to the Firth of Clyde (in terms of visual impact) was noted (i.e. sheens or droplets).

On this basis the mechanism for groundwater release to the Clyde is considered to be complex with no visual evidence of groundwater release being noted during low tide periods. As such the actual area of discharge or flow rate for discharge is not easily defined, however based on the available visual information it is considered that the release is low and does not represent a point source area.

This information should be factored in as part of the modelling approach, as it is considered that the model does not fully represent the conditions in place at the site. Of principal consideration is that the release of groundwater is unlikely to represent a continued steady flow as would be the case of a typical coastal outfall. The known information that the significant presence of free product on groundwater at the site prior to the remedial works did not result in an evident sheen on the surface water which will be significantly improved by the action of free product removal and contaminated soil excavation on the remediation area.

3. MODELLING INPUT DATA

To generate an initial dilution factor for the site the Environment Agency Cederwall Equation calculator has been adopted utilising a still water scenario.

The model requires the following input criteria:

1) Mean Spring Tidal Range (m)
2) Total Water Depth at MLWS (m)
3) Mean Neap Tidal Range (m)
4) Total Water Depth at MLWN (m)
5) Total Effluent Flow (m3/s)
6) Number of Diffuser Ports
7) Height of Ports above bed (m)
8) Diameter of Diffuser Port (m)
9) Diameter of Outfall (m)
10) Ambient Water Density (kg/m3)
11) Effluent Density (kg/m3)

The following initial values were adopted to compile the model prior to running sensitivity analysis to determine the implications of alteration of the criteria.

3.1 Parameter 1-4

In relation to input criteria 1-4 information for the Ardrossan harbour area and tide times have been reviewed to determine the input data. Information is provided in Appendix 1.

3.2 Parameter 5

The total effluent flow value initially adopted has initially been calculated on the following basis:

Groundwater Flow Velocity – 0.77m/day (0.0000089m/s) taken from CLEA briefing note for Sandy Soils and utilised in the RTW assessment.

Length of Revetment front in the area of the remediation section – 95m

Saturated Aquifer Thickness – 4m as defined by borehole logs.

On that basis, flow*length* depth would provide a flow of 0.0033m3/s. This is considered to be extremely conservative as site based observation does not indicate a continuous discharge across the face of the revetment area for the remedial zone. This will be further considered in the sensitivity analysis.

3.3 Parameter 6

As noted previously the risk assessment approach is principally related to outfall assessment. As such there is no diffuser port in place at Ardrossan. For the purposes of the assessment 1 has been adopted.

3.4 Parameter 7

As for the previous parameter, there is no diffuser port in place at the site and in practice there is no defined discharge location. In practice the discharge height may vary along the revetment area and in line with tidal changes to the receiving water. There is no visual evidence of release of groundwater through the existing revetment at the site and as noted previously the mechanism for interaction between groundwater and surface water is complex. The depth of the diffusion port is considered to be a key parameter for the assessment. This value defines the initial mixing depth of water in relation to the incoming flow. In practice at Ardrossan there will be periods when groundwater is released directly to the beach area at low tide and directly into surface water at high tide times. As there is no visual evidence of flow through the revetment at low tide it is assumed that the discharge is occurring close to or potentially below the existing beach area. As such a value of 0.1m has been adopted initially.

3.5 Parameter 8 and 9

The diameter of the diffuser port and outfall cannot be readily defined as there is no identified outfall position. As part of the assessment a value of 0.5m has been applied for the diffuser port and 1m for the outfall, this will be further assessed during sensitivity analysis.

3.6 Parameter 10 and 11

The values for the ambient water density and effluent density have initially been set as 1026 and 1000 as detailed as a generic assumption within the model.

4. MODELLING FINDINGS

A copy of the initial model run as defined utilising the above parameters is provided in Appendix 2.

The model indicates that the 95%ile initial dilution rate on the basis of the modelling input data is 2.53.

To assess the key parameters driving the model a sensitivity analysis has been undertaken. To inform the analysis the input parameters have initially been adjusted by various factors to assess the potential implications of change. The table below details the findings. Alterations to the ambient water density and effluent density have not been undertaken as these are based on standard model default values as there is no applicable information to inform alteration to the values.

Parameter	Alterations in 95%ile	Comment
Mean Spring Tidal Range	The MSTR has been varied by 20% both up and down to indicate potential for alterations in this value. +20% results in 2.69 -20% results in 2.16	Alteration in the tidal range is noted to have a small effect on the dilution rate; however it has not fundamentally altered the findings of the assessment. This value is based on real information collected from

		the nearby Ardrossan harbour. On that basis the adopted value is considered to be robust.
Total Water Depth at MLWS	As above a variation of 20% has been applied to the MLWS total water depth to indicate slight variations. +20% results in 3.43 -20% results in 1.73	The variations in MLWS are noted to have a significant effect on the dilution rate. This is considered principally to be related to the interaction of this value with the height of the release port, as this defines the mean lowest depth of water present to allow dilution to occur. It is considered that this value based on real data represents a robust parameter for adoption. Variation of the port depth as a less well defined parameter is considered to be more appropriate in determining the sensitivity and accuracy of the model.
Mean Neap Tidal Range	Varied by 20% as above: +20% - No change to findings -20% - No change to findings	Adjustment to this value is not considered to result in significant changes to the model results. As above this is based on real data from near the site so is considered robust.
Total Water Depth at MLWN	Varied by 20% as above: +20% - No change to findings -20% - No change to findings	Adjustment to this value is not considered to result in significant changes to the model results. As above this is based on real data from near the site so is considered robust
Total Effluent Flow	As previously indicated there is limited information currently available on the groundwater flow rate into the surface water. As such the initial model exercise included a very conservative assumption that all the groundwater was flowing into the surface water at a steady velocity across the face of the site. In practice the flow discharge is likely to be significantly lower when the following is taken into account: • The model assumes that the groundwater across the remedial site represents the effluent discharge. The exercise is primarily assessing individual hotspots of	The value adopted is very conservative. This requires to be considered as part of the overall risk assessment findings.

	contaminants on the site; therefore the input effluent will be significantly lower in size. • Site observation does not back-up the discharge rates calculated. To provide an indication of the implications of the uncertainty in this calculation, the width of the contaminant zone has been reduced to 45m (half the length of the existing revetment) to reflect the reduced source zone and the depth of aquifer reduced to 0.5m to reflect that hydrocarbon contaminant are principally hydrophobic and will be present on the surface of the input. This results in a flow value of 0.0002m3/s. This alteration would provide a dilution factor of 15.37	
Number of diffuser ports	The diffuser port option reflects that the adopted model is designed for assessment of outfall pipes to the marine environment. These are designed with a range of diffuser options, varying from release at the end of the pipe (1 port) to a series of releases at the end of a pipe. The initial model assumed 1 diffuser port. In practice the route to the surface water will have a series of output areas, each allowing for discharge of the groundwater into the surface water. Adoption of 1 port is considered extremely conservative, further compounding the conservatism of the parameters adopted in the effluent flow calculations. If it is assumed that the discharge occurs from a location every 5m along the assumed 95m wide release zone this results in 19 diffuser points. Adoption of 95 ports would provide a value of 16.88 for initial dilution	The variation in the diffuser port option demonstrates the weakness in the application of this initial dilution model with respect to groundwater release to the surface water. The model is designed to assume active flow from a pipe release (i.e. point source release) which can be mitigated by increasing diffusion through a series of small holes in the pipeline. Modelling assuming that groundwater is released along the length of the revetment and through one diffuser port is considered to be entirely unrepresentative of the active release options at the site. This will be further discussed below.
Diameter of diffuser port and	Variation of these parameters has	Variation has no effect.

diameter of outfall	not effect on the dilution rate. The model assumes that the depth of release water is the key parameter in relation to dilution.	
Height of Diffuser Port	Given that groundwater flow to the site is not through an engineered structure this value is likely to vary at different tide conditions and dependent on the release zones in the revetment. Assuming the value is 0 the dilution rate would alter to 3.22. An increase to 0.5m would lower the dilution rate to 0.15.	The height of the diffuser port has a significant bearing on the initial dilution rate as it determines the depth of the water column at the time of release. In practice given that the at times the foreshore is dry, and other times the water is several metres deep there is likely to be significant variation in the depth of the discharge location.

5. DISCUSSION

Following the modelling exercise there is considered to be significant limitations in the development of an initial dilution rate for a groundwater release utilising modelling packages designed for assessment of effluent outfall impact.

Principally the key areas that have large implications and are difficult to define are:

- Flow Rate – The adopted approach for the initial model is considered to be extremely conservative assuming a consistent flow of groundwater into the surface water area, which in practice has never been observed on the site. As previously noted despite the former presence of significant free product on groundwater no visual sheens have been recorded on surface water or the dry beach indicating that the flow rate is likely to be significantly lower than the initial adopted value.
- Number of diffuser ports – This has significant impact on the model as it assumes an engineered point source release mechanism which is not the method of release likely to be occurring at the Ardrossan site. As noted in the sensitivity analysis increase in the number of diffuser ports (i.e. release areas) has significant impact to the results of the model. It is considered reasonable that if the flow rate utilised is based on the groundwater being released over a 95m width (as noted to be a very conservative approach), that increase of the diffuser ports to reflect the mechanism of release (i.e. through a number of areas across the revetment) may be appropriate.
- Height of diffuser port – The height of the diffuser port will vary as the release mechanism is not an engineered process. As noted the release area is dry at periods and therefore at times no initial dilution will occur. In practice there is no site based observation to indicate that any release is occurring at periods when the beach area is dry.

The results of the initial dilution exercise indicate that the initial dilution occurring at the site will vary, however at periods for the site (i.e. low tide times) the initial dilution will not be 50. As previously indicated the value of 50 is related to the design of an industrial effluent release, and is not considered appropriate for enforcement on a release of groundwater from a remediated site.

The initial model run indicated a 95%ile dilution rate of 2.37 for the site. Assuming a reduction in the flow rate and increase in the diffuser port numbers as undertaken in the sensitivity analysis the 95%ile dilution rate would increase to 109 (thereby addressing the contaminant dilution requirements at the site). This indicates the

potential variation in the model findings and the implications of the conservative approach adopted in the initial model run.

It should also be noted that the dilution modelling is being undertaken to further assess the findings of the Remedial Target Worksheet modelling exercise, which in itself is incorporates elements of conservatism.

Given this uncertainty it is considered reasonable that a great deal of consideration is placed on the actual processes which have been observed at the site over the investigation and remediation period, which are reflective of real life conditions. Given that prior to the remediation there was no evidence of sheens on the beach area or surface water, it is considered that the active removal of free product (29,000 litres) and excavation and bioremediation of soils (~25,000m3) across the initial remediation area has represented significant environmental improvement reducing the potential for any future releases from this zone.

6. MIXING ZONE CONSIDERATIONS

It is noted that the model exercise only allows for initial dilution, and dilution in the subsequent mixing zone is not considered in this assessment. It is noted that the SEPA WAT-SG-11 document states the following in relation to calculation of the mixing zone:

"It is recognised that calculating the dilution and potential effects resulting from defining a mixing zone in this way requires a degree of accompanying survey work and technical data that may not be available or reasonably obtainable. The decision on whether to relax any of these guidelines has to be site-specific and based on a sound assessment of risk. Previous SEPA experience has shown that some effluents exhibit either greater or lesser toxicity than an existing knowledge of their chemical constituents would suggest. A preliminary toxicity screening of any significant complex effluent should be undertaken before assuming toxicity does not need to be considered."

Given the requirements for this modelling is in relation to assessment of hotspots of contamination following a remediation exercise it is the case that there is none of the required technical data to carry out the mixing zone assessment in its entirety.

SEPA guidance stipulates a maximum mixing zone of 100m around the initial release site for consideration.

It is noted that following the Remedial Target Worksheet Assessment and ESI stats package a dilution value of up to 9.3 is required to address an individual hotspot at TP70 (TPH Aro C8-C10 in soil) and a factor of up to 6.12 is required to address cumulative 95%ile values of TPH Aro 8-10 across the remedial area.

Given that the conservative approach to the initial dilution calculation has generated a dilution rate of 2.37 at the point of release to the surface water environment, it is considered that the conditions in the greater Ardrossan harbour area will adequately result in an increase in dilution rates to meet the modelled requirements. This is further justified by the experience of the conditions at the site and surrounding surface water environment.

In the absence of the modelled data for the mixing zone, subsequent surface water sampling to confirm that in the near shore environment the concentrations of the identified contaminants do not exceed the assessment criteria could be undertaken to provide a robust data set to confirm these assumptions.

APPENDIX 1

Tide Time Information Reviewed from –

http://www.tidetimes.org.uk/ardrossan-tide-times#axzz2n40nTUsP

http://www.bbc.co.uk/weather/coast_and_sea/tide_tables/7/410

http://www.visitmyharbour.com/tides/240/uk-tables/ardrossan-tide-tables

C GROUNDWATER RESULTS

Lab Sample Number								1429992	1429993	1429994	1429995	1429996	1426480	1426481	1426482	1426483	1426484	1426485
Sample Reference								BH9	BH7	BH8	BH5	BH3	BH12	BH13	BH11	BH15	BH17	BH19
				Assessment Criteria	Assessment Criteria	Assessment Criteria												
Date Sampled				EQS	WHO	RPV		30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	27/01/2020	27/01/2020	27/01/2020	27/01/2020	27/01/2020	27/01/2020
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**															
General Inorganics																		
pH	pH Units	N/A	ISO 17025					7.7	7.7	7.8	7.6	7.7	7.6	7.6	10.1	7.0	7.0	7.1
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025					590	520	530	650	550	1000	1100	270	1100	4600	1100
Dissolved Organic Carbon (DO	mg/l	0.1	NONE					28.1	24.6	6.29	7.50	7.11	15.6	5.20	11.1	11.2	8.35	16.1
Heavy Metals / Metalloids																		
Arsenic (dissolved)	µg/l	0.15	ISO 17025	25		100		1.00	1.15	0.47	1.25	0.50	1.57	0.49	1.90	0.84	0.42	1.78
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.2		5		0.06	< 0.02	< 0.02	< 0.02	0.04	< 0.02	< 0.02	0.04	< 0.02	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	0.6		50		0.4	0.6	0.4	< 0.2	0.8	0.2	< 0.2	0.7	< 0.2	< 0.2	0.2
Copper (dissolved)	µg/l	0.5	ISO 17025	5.09				3.2	2.1	2.1	0.8	4.5	1.2	1.2	5.1	0.7	1.1	2.8
Lead (dissolved)	µg/l	0.2	ISO 17025	1.3		25		1.4	2.4	< 0.2	0.3	0.4	1.0	0.3	7.8	< 0.2	< 0.2	1.0
Mercury (dissolved)	µg/l	0.05	ISO 17025			1		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	8.6		20		1.0	2.5	1.2	3.6	2.3	2.9	1.5	5.3	3.2	0.7	0.9
Selenium (dissolved)	µg/l	0.6	ISO 17025			10		1.0	0.7	1.0	< 0.6	0.8	0.7	1.2	0.8	1.0	12	0.8
Zinc (dissolved)	µg/l	0.5	ISO 17025	7.9				3.2	13	6.6	12	17	6.0	4.1	7.2	3.1	2.2	7.4
Monoaromatics & Oxygenat																		
Benzene	µg/l	1	ISO 17025	8		1		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	74				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025			300		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025			500		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025			500		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Et	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons																		
TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025		15000			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025		15000			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C1	µg/l	1	ISO 17025		300			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C	µg/l	10	NONE		300			620	< 10	< 10	< 10	< 10	1000	< 10	340	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C	µg/l	10	NONE		300			1400	440	< 10	< 10	< 10	740	< 10	180	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C	µg/l	10	NONE					1500	540	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C	µg/l	10	NONE					1100	460	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 -	µg/l	10	NONE					4600	1400	< 10	< 10	< 10	1700	< 10	510	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025		10			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025		10			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C1	µg/l	1	ISO 17025		300			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C	µg/l	10	NONE		300			< 10	< 10	< 10	< 10	< 10	460	< 10	200	< 10	< 10	130
TPH-CWG - Aromatic >C12 - C	µg/l	10	NONE		300			< 10	< 10	< 10	< 10	< 10	< 10	< 10	22	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C	µg/l	10	NONE		90			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C	µg/l	10	NONE		90			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 -	µg/l	10	NONE					< 10	< 10	< 10	< 10	< 10	460	< 10	230	< 10	< 10	130
VOCs																		
Chloromethane	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	1	NONE					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/l	1	NONE					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/l	1	ISO 17025	10				< 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-Trichloro-1,2,2-trifluoroet	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Et	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	2.5				< 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-Trichloroethane	µg/l	1	ISO 17025	100				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/l	1	ISO 17025	10				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	8				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	3				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025			10		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	74				< 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-Trichloroethane	µg/l	1	ISO 17025	300				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	20				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	50		20		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025					< 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-Trimethylbenzene	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

1,4-Dichlorobenzene	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025					< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

SVOCs

Aniline	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	0.05	NONE	7.7				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	0.05	NONE	50				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	0.01	ISO 17025	2				0.65	0.41	< 0.01	< 0.01	< 0.01	3.6	0.68	12	0.48	< 0.01	1.4
2,4-Dichlorophenol	µg/l	0.05	NONE	0.042				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	0.05	NONE	40				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	5.1	1.0	2.3	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	0.05	NONE	800				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l	0.01	ISO 17025					< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025					1.7	2.4	< 0.01	< 0.01	< 0.01	< 0.01	0.37	10	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	2.5	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l	0.01	ISO 17025					2.0	0.69	< 0.01	< 0.01	< 0.01	< 0.01	0.45	3.5	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l	0.01	ISO 17025					1.4	0.52	< 0.01	< 0.01	< 0.01	< 0.01	0.82	2.2	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	0.1				0.33	0.20	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.87	< 0.01	< 0.01	< 0.01
Carbazole	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	3.6	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	18	19	5.2	< 0.05	< 0.05	< 0.05
Anthraquinone	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.01	ISO 17025	0.0063				0.80	0.46	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.59	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025					1.8	1.3	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.58	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l	0.05	NONE					< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l	0.01	ISO 17025					< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025					< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025					< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025					< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	1.7 x 10-4		0.01		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025					< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025					< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025					< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PAHS						0.1		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Analytical Report Number: 20-90508
Project / Site name: Ardrossan
Your Order No: 19-0110

Lab Sample Number					1461308	1461309	1461310	1461311	1461312	1461313	1461314	1461315	1461316	1461317	1461318	1461319	1461320	1461321	1461322
Sample Reference					BH7	BH9	BH10	BH11	BH13	BH14	BH15	BH18	BH01A	BH3	BH6	BH5	BH8	BH16	BH20
Sample Number					None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)					None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled					02/03/2020	02/03/2020	02/03/2020	02/03/2020	02/03/2020	02/03/2020	02/03/2020	02/03/2020	03/03/2020	03/03/2020	03/03/2020	03/03/2020	03/03/2020	03/03/2020	03/03/2020
Time Taken					None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Assessment Criteria (EQS)**	**Assesment Criteria (WHO)**	**Assessment Criteria (RPV)**															
General Inorganics																			
pH	pH Units				7.1	7.2	7.0	7.5	7.6	7.2	7.0	7.0	7.6	7.5	7.6	7.2	7.4	7.9	7.0
Electrical Conductivity at 20 °C	µS/cm				510	570	440	740	1100	28000	1100	820	850	640	430	780	650	460	1200
Dissolved Organic Carbon (DOC)	mg/l				11.1	16.6	9.78	29.9	5.62	4.64	12.2	19.0	4.71	4.66	3.93	4.45	4.66	2.60	7.01
Heavy Metals / Metalloids																			
Selenium (dissolved)	µg/l				-	-	-	-	-	< 4.0	-	-	-	-	-	-	-	-	-
Arsenic (dissolved)	µg/l	25		100	1.60	0.53	1.24	1.70	0.22	0.17	0.85	0.24	1.75	0.39	1.12	0.32	0.36	0.58	0.78
Cadmium (dissolved)	µg/l	0.2		5	< 0.02	< 0.02	0.04	< 0.02	< 0.02	0.04	0.03	< 0.02	0.03	0.04	< 0.02	0.10	< 0.02	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.6		50	< 0.2	0.2	0.2	0.4	< 0.2	< 0.2	0.2	< 0.2	0.4	0.5	< 0.2	0.2	0.5	0.3	< 0.2
Copper (dissolved)	µg/l	5.09			3.9	5.5	6.6	9.7	0.9	< 0.5	1.9	2.0	3.6	6.0	2.3	5.3	6.5	1.7	1.5
Lead (dissolved)	µg/l	1.3		25	1.1	< 0.2	< 0.2	2.3	< 0.2	0.2	< 0.2	0.2	0.6	< 0.2	0.2	< 0.2	< 0.2	< 0.2	< 0.2
Mercury (dissolved)	µg/l			1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	8.6		20	2.4	1.2	3.2	4.3	0.7	< 0.5	3.3	2.9	1.1	1.6	1.2	5.6	1.0	0.7	2.8
Selenium (dissolved)	µg/l			10	< 0.6	< 0.6	< 0.6	0.8	1.0	U/S	2.5	1.8	3.3	1.3	1.3	1.8	1.4	1.6	3.2
Zinc (dissolved)	µg/l	7.9			17	9.2	15	17	1.8	0.5	5.9	7.5	8.4	8.6	5.1	19	12	8.0	5.6
Monoaromatics & Oxygenates																			
Benzene	µg/l	8		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
Toluene	µg/l	74			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l			300	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l			500	< 1.0	< 1.0	< 1.0	< 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	µg/l			500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/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	< 1.0
Petroleum Hydrocarbons																			
TPH-CWG - Aliphatic >C5 - C6	µg/l		15000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l		15000		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l		300		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l		300		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l		300		280	150	100	160	< 10	< 10	< 10	480	47	< 10	< 10	< 10	370	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l				420	250	91	110	< 10	< 10	< 10	560	89	< 10	< 10	< 10	680	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l				200	290	160	180	< 10	< 10	180	950	260	< 10	< 10	< 10	200	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l				900	690	360	450	< 10	< 10	180	2000	400	< 10	< 10	< 10	1200	< 10	< 10
TPH-CWG - Aromatic >C5 - C7	µg/l		10		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

TPH-CWG - Aromatic >C7 - C8	µg/l		10		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l		300		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l		300		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l		300		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l		90		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l		90		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l				< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

VOCs

Chloromethane	µg/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	< 1.0
Chloroethane	µg/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	< 1.0
Bromomethane	µg/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	< 1.0
Vinyl Chloride	µg/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	< 1.0
Trichlorofluoromethane	µg/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	< 1.0
1,1-Dichloroethene	µg/l	10			< 1.0	< 1.0	< 1.0	< 1.0	< 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-Trichloro-1,2,2-trifluoroethane	µg/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	< 1.0
Cis-1,2-dichloroethene	µg/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	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/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	< 1.0
1,1-Dichloroethane	µg/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	< 1.0
2,2-Dichloropropane	µg/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	< 1.0
Trichloromethane	µg/l	2.5			< 1.0	< 1.0	< 1.0	< 1.0	< 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-Trichloroethane	µg/l	100			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/l	10			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/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	< 1.0
Trans-1,2-dichloroethene	µg/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	< 1.0
Benzene	µg/l	8			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	3			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/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	< 1.0
Trichloroethene	µg/l			10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/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	< 1.0
Bromodichloromethane	µg/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	< 1.0
Cis-1,3-dichloropropene	µg/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	< 1.0
Trans-1,3-dichloropropene	µg/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	< 1.0
Toluene	µg/l	74			< 1.0	< 1.0	< 1.0	< 1.0	< 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-Trichloroethane	µg/l	300			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/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	< 1.0
Dibromochloromethane	µg/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	< 1.0
Tetrachloroethene	µg/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	< 1.0
1,2-Dibromoethane	µg/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	< 1.0
Chlorobenzene	µg/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	< 1.0
1,1,1,2-Tetrachloroethane	µg/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	< 1.0
Ethylbenzene	µg/l	20			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/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	< 1.0
Styrene	µg/l	50		20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/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	< 1.0
o-Xylene	µg/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	< 1.0
1,1,2,2-Tetrachloroethane	µg/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	< 1.0
Isopropylbenzene	µg/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	< 1.0
Bromobenzene	µg/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	< 1.0
n-Propylbenzene	µg/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	< 1.0
2-Chlorotoluene	µg/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	< 1.0
4-Chlorotoluene	µg/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	< 1.0
1,3,5-Trimethylbenzene	µg/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	< 1.0
tert-Butylbenzene	µg/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	< 1.0
1,2,4-Trimethylbenzene	µg/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	< 1.0

sec-Butylbenzene	µg/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	< 1.0
1,3-Dichlorobenzene	µg/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	< 1.0
p-Isopropyltoluene	µg/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	< 1.0
1,2-Dichlorobenzene	µg/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	< 1.0
1,4-Dichlorobenzene	µg/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	< 1.0
Butylbenzene	µg/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	< 1.0
1,2-Dibromo-3-chloropropane	µg/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	< 1.0
1,2,4-Trichlorobenzene	µg/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	< 1.0
Hexachlorobutadiene	µg/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	< 1.0
1,2,3-Trichlorobenzene	µg/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	< 1.0

SVOCs

Aniline	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenol	µg/l	7.7			< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chlorophenol	µg/l	50			< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethyl)ether	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroisopropyl)ether	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylphenol	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachloroethane	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Methylphenol	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Isophorone	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Nitrophenol	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-Dimethylphenol	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bis(2-chloroethoxy)methane	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2,4-Trichlorobenzene	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	µg/l	2			0.74	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	µg/l	0.042			< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloroaniline	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobutadiene	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chloro-3-methylphenol	µg/l	40			< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,6-Trichlorophenol	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-Trichlorophenol	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Chloronaphthalene	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethylphthalate	µg/l	800			< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,6-Dinitrotoluene	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/l				< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l				2.0	0.79	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.50	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dinitrotoluene	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzofuran	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Chlorophenyl phenyl ether	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diethyl phthalate	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitroaniline	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/l				0.42	0.52	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Azobenzene	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromophenyl phenyl ether	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/l				< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.57	< 0.01	< 0.01
Anthracene	µg/l	0.1			< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbazole	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibutyl phthalate	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Anthraquinone	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/l	0.0063			0.31	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	1.8	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l				0.58	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	2.1	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Butyl benzyl phthalate	µg/l				< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/l				< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l				< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l				< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l				< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	1.7 x 10-4		0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l				< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l				< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l				< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PAHs	µg/l			0.1	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

D SEDIMENT SAMPLING REPORT

Ardrossan Marina Pre-Dredge Sampling 2020
Sediment Quality Report

March 2021

Ardrossan Marina Pre-Dredge Sampling 2020 Sediment Quality Report

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Appendices

Tables

1 INTRODUCTION

1.1 Background

Fairhurst on behalf of North Ayrshire Council contracted EnviroCentre Ltd. to undertake the collection of vibrocore samples at the proposed Ardrossan Marina site. The Fairhurst drawing in Appendix A details the indicative development plan for the marina.

The samples were collected to inform proposed dredging and associated reuse/disposal options.

The purpose of these samples is to review the potential for the dredge arisings to be re-used on the adjacent Ardrossan North Shore development site. In addition the information is provided as supporting information to Marine Scotland during the licensing process on sediment quality within the proposed dredge areas. The dredging and disposal activities are regulated by Marine Scotland under the Marine (Scotland) Act 2010. The licensing conditions require representative samples to be collected and the nature (i.e. physical composition), quality and contamination status to be determined.

1.2 Re-Use Potential

The proposed development of the Ardrossan North Shore site incorporates redevelopment of the site for a mixed use including a school campus and residential housing.

For the purposes of the re-use review the material has been assessed against a range of applicable assessment criteria as detailed below:

Waste Classification

The dredge arisings will be identified as a waste material and be regulated by SEPA for re-use above the Mean High Water Spring level. The sediment results will be assessed to determine the waste classification (Non Hazardous or Hazardous) of the material. Where Hazardous material is identified this will be not be considered suitable for re-use.

Human Health

The site is proposed for a mixed use with the most sensitive end use deemed to be residential with plant uptake. The sediment sample results have been compared against generic human health criteria for residential with plant uptake use (based on 1% organic matter content). The generic criteria adopted incorporate:

- Land Quality Management/Chartered Institute of Environmental Health Suitable 4 Use Levels (S4ULS);
- DEFRA Category 4 Screening Levels (C4SL) for lead only).

Water Environment

The sediment is currently located in the marine environment, as such placement of land is considered to represent a lower risk to the water environment than its current location.

Regardless of this, to review the risk to the water environment selected samples were scheduled for leachate testing.

Given the sites proximity to the Firth of Clyde it is considered that the groundwater present will not be a viable resource due to salinity issues. The key receptor is therefore identified as marine surface water.

The risk to the water environment has been assessed on the basis of the following initial screening assessment.

- Leachate results for heavy metals compared against marine EQS values;
- Hydrocarbon concentrations considered against 1,000mg/kg (hazardous threshold level).
- Leachate results for PAHs assessed against laboratory detection limit.

1.3 Action Levels – AL1 Vs AL2

Two action levels are currently used to assess the suitability of sea based disposal of dredged sediment material AL1 and AL2.

Sediment with contaminant concentrations below AL1 is generally considered to be below background levels for contamination and is suitable for disposal at sea.

For samples between AL1 and AL2, additional risk assessment may be required including further sampling and testing to fully identify pockets of contamination or implementation of bioassays to assess the materials suitability for sea disposal. This would need to be agreed and approved by Marine Scotland.

Material above AL2 is generally considered to be unsuitable for disposal to sea. If the sea disposal route is to be pursued, further testing along the lines of bioassay accompanied by a robust justification for selecting sea disposal as the BPEO may be required. This would need to be supported further with additional information regarding any mitigation measures which could be put in place as part of these works. This would require further discussion and agreement with Marine Scotland.

1.4 Scope of Report

The following report details the sampling methodology, field and laboratory analysis and provides a summary of the sediment quality present within the proposed dredge areas.

2 SEDIMENT SAMPLING REQUIREMENTS

The following tables detail the sample locations, figures detailing the sample locations are provided in Appendix A.

Table 2-1 - Sample Information

Sample Name	Sample Location	Type of Sample
VC01 0-0.15, 0.4-0.9 and 0.9-1.4	Latitude - 55°38.638 Longitude - -004°49.502	Core
VC02 0-0.15, 0.15-0.4 and 0.9-1.4	Latitude - 55°38.676 Longitude - -004°49.508	Core
VC03 0-0.15, 0.15-0.5 and 0.5-1.0	Latitude - 55°38.678 Longitude - -004°49.434	Core
VC04 0-0.15, 0.2-0.7 and 0.7-1.2	Latitude - 55°38.656 Longitude - -004°49.358	Core
VC05 0-0.15, 0.25-0.75 and 0.75 to 1.25	Latitude - 55°38.606 Longitude - -004°49.321	Core
VC06 0-0.15, 0.15-0.5 and 0.5-1.0	Latitude - 55°38.690 Longitude - -004°49.365	Core
VC07 0-0.15, 0.15-0.5 and 0.5-1.0	Latitude - 55°38.679 Longitude - -004°49.293	Core
VC08 0-0.15, 0.15-0.6 and 0.6-1.1	Latitude - 55°38.630 Longitude - -004°49.298	Core
VC09 0-0.15, 0.15-0.5 and 0.5-1.0	Latitude - 55°38.591 Longitude - -004°49.261	Core
VC10 0-0.15, 1-1.5 and 1.5-2.0	Latitude - 55°38.569 Longitude - -004°49.284	Core

2.1 Field Information

The following field data is recorded for each sample obtained:

- A unique sample ID;
- Sample location;
- Sample co-ordinates in latitude and longitude in degrees, minutes and decimals of minutes;
- Date, time and depth of collection;
- Sampler's ID;
- Sediment description; and
- Details of any deviation from sampling protocol.

2.2 Sampling Requirements

The laboratory analysis required, and undertaken as part of this investigation, included metals, organic and particle size analysis. Samples for metals and particle size analysis were sub-sampled using a plastic spoon and stored in polyethylene bags. Samples for organic analysis were collected using stainless steel spoons and stored in glass jars. Samples were sent to Socotec for analysis.

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3 SAMPLING METHODOLOGY

All samples were collected on 1st and 2nd February 2021. The following sections detail the sampling methodology used to retrieve sediment samples from the site.

3.1 Survey Vessel

Sampling works were undertaken from the vessel *Challenger of Leith*. The vessel was operated by Coastworks, with EnviroCentre Ltd personnel undertaking the sampling works.

3.2 Navigation and Sample Location

Sample stations were navigated to using pre-determined coordinates. The sample stations were located using a combination of a Trimble Kenai Tablet and Trimble TDC100 GPS equipment, as well as the vessel's navigation system. Once in position, the spud legs were deployed to keep the vessel in position. Sampling equipment was then deployed and recovered. The position was then recorded on the GPS device. The spud legs would then be lifted and the vessel moved to the next sample location.

Core samples were recovered using a vibrocorer with 75mm sample tube. The vibrocorer was deployed and recovered using the deck mounted crane.

Once the tube was recovered, the core was detached from the head unit, and the recovery depth and sediment type at the base were noted. Where necessary, additional attempts were made at the same location to obtain a better recovery and/or meet the required sampling depth. Cores were sub-sampled on the vessel immediately after collection.

All core samples were supplemented by a grab sample, to ensure there was sufficient surface sediment for analysis. Grab samples were obtained using a 0.045m^2 stainless steel Van Veen grab sampler. Recovered material was emptied into a plastic bucket ready for sub-sampling. Where required, the grab was deployed multiple times to ensure enough sample was recovered for testing.

3.3 Field Information

The following field data was recorded for each sample obtained:

- A unique sample ID;
- Sample location;
- Sample coordinate in latitude and longitude in degrees, minutes and decimals of minutes;
- Date, time and depth of collection;
- Sampler's ID;
- Sediment description;
- Sample photographs(); and,
- Detailed of any deviation from sampling protocol.

3.4 Sample Preparation

Cores were cut into subsections and extruded into a plastic core holder, spilt in half lengthways, photographed and logged prior to sub sampling. Grab samples were also photographed and logged prior to sub-sampling.

Where part of a core was not required to be sub-sampled, these sections were labelled, capped and retained by EnviroCentre.

Samples for metals and particle sized analysis were sub-sampled using a plastic spoon and stored in plastic tubs. Samples for organic analysis were collected using stainless steel spoons and stored in amber glass jars.

Sampling equipment (spoons etc) were cleaned with sea water between samples to minimise the risk of cross contamination.

Once samples had been placed within appropriate containers, they were labelled and placed immediately into cool boxes. Samples were dispatched to the project laboratory (Socotec).

3.5 Sampling Constraints

There were no significant sampling constraints encountered during the sampling. Generally the vibrocore was restricted to achieving depths of sediment ranging from 1m to 1.5m.

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4 ANALYTICAL RESULTS

A summary table comparing the data to the reuse assessment criteria has been included in Appendix C.

A summary table comparing the data to the sea disposal action levels is provided in Appendix D.

4.1 Physical Analysis

4.1.1 Particle Size Distribution (PSD)

Particle Size Distribution data set for each sample is included within Appendix C. Sediments sampled within the proposed dredge area is reported as being predominately sandy silt.

Field descriptions of the sediments and accompanying comment on sedimentology are included within Appendix B within the sample logs.

4.2 Waste Classification Assessment

The sediment results have been assessed using the Hazwasteonline waste characterisation tool.

A copy of the assessment report is provided in Appendix E.

The assessment has confirmed that all samples would be classified as non-hazardous waste.

4.3 Human Health Assessment

A summary table detailing the sample results in comparison to the generic human health assessment criteria is provided in Appendix C

For all the contaminants of concern the concentrations within the samples do not exceed the generic human health criteria for a residential with gardens land use.

4.4 Water Environment Assessment

Summary tables detailing the findings of the leachate assessment are provided in Appendix C

The assessment did not identify any concentrations of dissolved metals in leachate that exceeded the EQS values for marine surface water.

Concentrations of PAHs within leachates were all lower than the laboratory detection limits.

The concentrations of total TPH within the sediment samples did not exceed the 1,000mg/kg threshold.

4.5 Action Level Assessment

All chemical analytical results were assessed against Revised Action levels criteria as adopted by Marine Scotland. The results are summarised in the following sections with respect to the Marine Scotland Revised Action Levels (RAL). These exceedances are highlighted in the accompanying MS reporting table as an excel file and should be read in conjunction with this report.

4.5.1 Metals

- Arsenic –7 of the 30 samples recorded arsenic levels above REV AL1. The maximum concentration recorded was 31.3 mg/kg.
- Cadmium – None of the 30 samples recorded cadmium levels above REV AL1. The maximum concentration recorded was 0.26 mg/kg.
- Chromium - 16 of 30 samples recorded chromium levels above REV AL1. The maximum concentration recorded was 57.8 mg/kg.
- Copper – None of the 30 samples recorded copper levels above REV AL1. The maximum concentration recorded was 15.8 mg/kg.
- Lead –None of the 30 samples recorded lead levels above REV AL1. The maximum concentration recorded was 47.9 mg/kg.
- Mercury – 2 of 30 samples recorded mercury levels above REV Al1. The maximum concentration recorded was 0.39mg/kg.
- Nickel – All of the 30 samples recorded nickel levels above REV Al1. The maximum concentration recorded was 58.6 mg/kg.
- Zinc – None of the 30 samples recorded zinc levels above REV Al1. The maximum concentration recorded was 125 mg/kg.

4.5.2 Tributyl Tin (TBT)

None of the samples recorded concentrations of TBT above AL1.

4.5.3 Polyaromatic Hydrocarbons (PAHs)

10 of 30 samples recorded at least one PAH species above RAL 1. The maximum concentration was 1.12mg/kg for pyrene.

4.5.4 Polychlorinated Biphenyls

None of the samples recorded individual PCB congeners in exceedance of RAL 1.

4.5.5 Total Hydrocarbons (THC)

1 of 30 samples collected recorded hydrocarbons above Rev AL1. The maximum concentration was 144 mg/kg.

4.5.6 Average Concentrations

Average concentrations for the following contaminants of concern exceeded the Rev Al1:

- Nickel

No samples recorded exceedances of Rev AL2.

5 REUSE DISCUSSION AND SUMMARY

The sediment assessment has identified that the sediment is not a hazardous waste and has no noted exceedances in relation to water environment receptors.

All of the chemical parameters meet the human health criteria for a residential reuse.

On the basis of the above assessment it is considered that the dredge material would be suitable for re-use as part of the development. From a chemical quality perspective material could be utilised as part of the environmental cap or at depth as part of any required deeper infilling (i.e. infilling areas excavated for remediation requirements).

As part of the reuse proposals a review of the geotechnical results should be undertaken to confirm the appropriate reuse options for the material. Salinity of materials should also be considered with respect to reuse location (i.e. may not be suitable as a growing medium).

6 OFFSHORE DISPOSAL SUMMARY

The sediment sampling can be summarized as follows:

- 30 vibrocored samples were recovered,
- The sediments comprise primarily fine sand.
- All 30 samples exceeded the REV AI1 levels for certain contaminants including metals and PAHs.
- No samples recorded exceedances of AL2.

A table in Appendix D summarises the results of the laboratory analysis with respect to the Action Levels adopted by Marine Scotland. Any concentration recorded below the action level is noted as a pass and above the action level as a fail.

7 REFERENCES

Marine Scotland (2017). *Pre-DredgeSampling Guidance Version 1*: Scottish Government.

Chartered Institute of Environmental Health/Land Quality Management Suitable 4 Use Levels

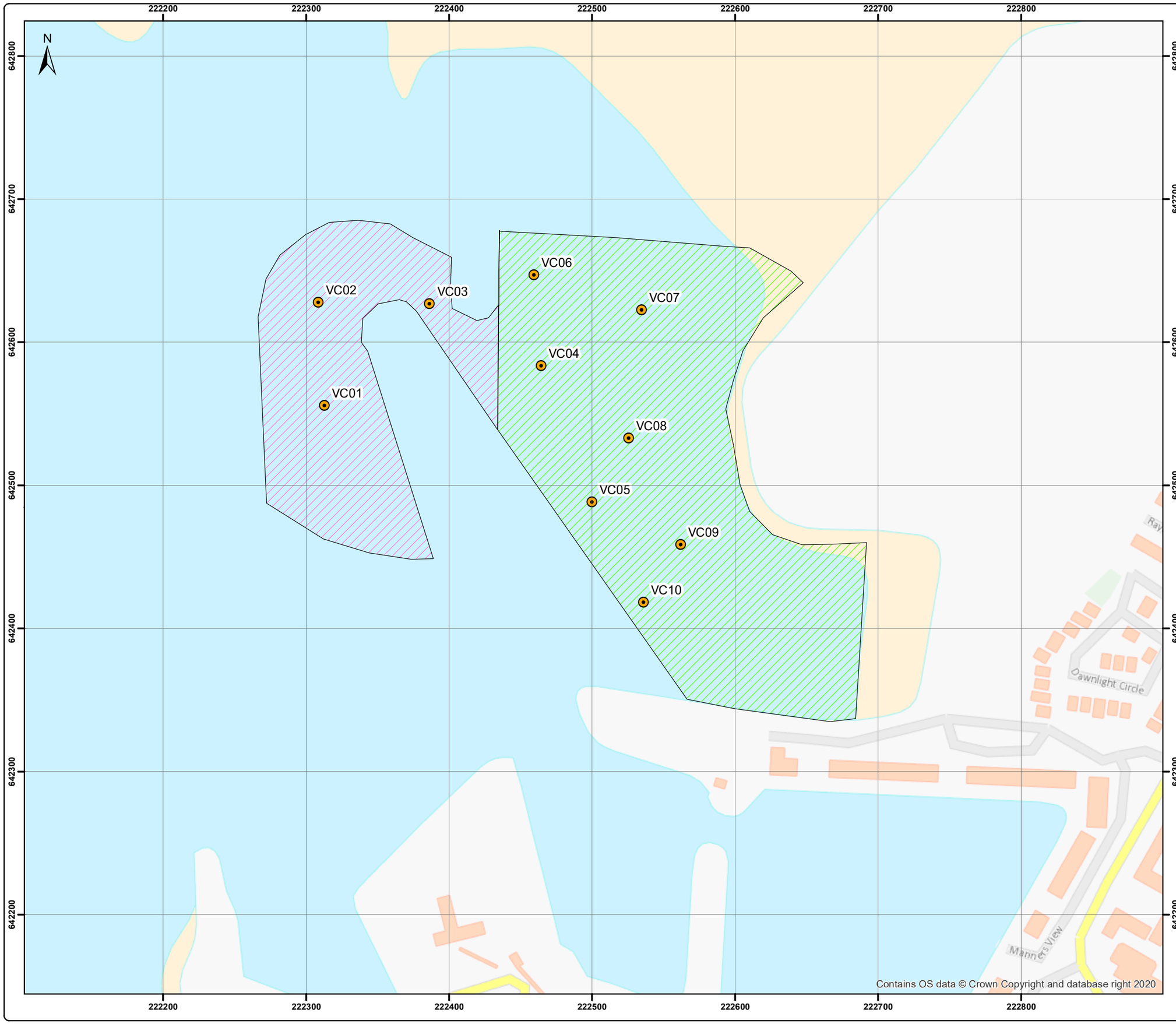
DEFRA Category 4 Screening Levels

Hazwasteonline

SEPA WAT SG 53

APPENDICES

A FIGURES



Legend

- Vibrocore
- Approx. Dredge Area - Marina
- Approx .Dredge Area - Entrance

Do not scale this map

Client
Fairhurst

Project
Ardrossan North Shore

Title
Vibrocore Locations - February 2021

Status
Final

Drawing No.	Revision	Date
173958-GIS007	-	01 Mar 2021
Drawn	**Checked**	**Approved**
FR	NC	GD

Scale
1:2,500 @A3
0 12.5 25 50 75 Metres

Rev	Date	Amendment	Initials
-	-	-	-

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Craighall Business Park, Eagle Street, Glasgow, G4 9XA
T: 0141 341 5040 E: info@envirocentre.co.uk W: www.envirocentre.co.uk

B SAMPLE LOGS AND PHOTOGRAPHS

envirocentre 8 Eagle Street, Craighall Business Park, Glasgow, G4 9XA	**Project Name**	Ardrossan Marina	**Location ID**
	Project No.	173958	**VC01**
	Client	Fairhurst	

SEDIMENT CORE LOG

Date/Time:	01/02/2021 11:30	**Latitude/Longitude:**	55°38.63760‘, -004°49.50171'
Dredge Area:	Entrance	**Sampled/logged by:**	AK/FR/NC
Method:	0.045m^2 Van-Veen Grab & Vibrocore	**Core Length (m):**	1.4

Remarks:

0.0 – 0.15 (grab):
Dark brown silty sand.

0.4 – 1.4m:
Dark grey fine silty sand.

Biota: None noted.

Odours: None noted.

Anthropogenic Inputs: None noted.

Notes: 2 attempts made. Attempt #2 sub-sampled.
0.0 – 0.4m core section retained.

envirocentre 8 Eagle Street, Craighall Business Park, Glasgow, G4 9XA	**Project Name**	Ardrossan Marina	**Location ID**
	Project No.	173958	**VC02**
	Client	Fairhurst	

SEDIMENT CORE LOG

Date/Time:	01/02/2021 12:39	**Latitude/Longitude:**	55°38.67630‘, -004°49.50831'
Dredge Area:	Entrance	**Sampled/logged by:**	AK/FR/NC
Method:	0.045m² Van-Veen Grab & Vibrocore	**Core Length (m):**	0.9

Remarks:

0.0 – 0.7m:
Dark grey silty sand with rare shell fragments.

0.7 – 0.75m:
Dark grey gravelly sand with frequent shell fragments.

0.75 – 0.9m:
Dark grey silty sand.

Biota: None noted.

Odours: None noted.

Anthropogenic Inputs: None noted.

Notes: 2 attempts made. Attempt #2 sub-sampled.

envirocentre 8 Eagle Street, Craighall Business Park, Glasgow, G4 9XA	**Project Name**	Ardrossan Marina	**Location ID**
	Project No.	173958	**VC03**
	Client	Fairhurst	

SEDIMENT CORE LOG

Date/Time:	01/02/2021 14:10	**Latitude/Longitude:**	55°38.67750‘, -004°49.43401'
Dredge Area:	Entrance	**Sampled/logged by:**	AK/FR/NC
Method:	0.045m² Van-Veen Grab & Vibrocore	**Core Length (m):**	1.0

Remarks: **0.0 – 1.0m:**
Dense dark greyish-brown silty fine sand.

Biota: None noted.

Odours: None noted.

Anthropogenic Inputs: None noted.

Notes: 2 attempts made. Attempt #2 sub-sampled.

envirocentre 8 Eagle Street, Craighall Business Park, Glasgow, G4 9XA	**Project Name**	Ardrossan Marina	**Location ID**
	Project No.	173958	**VC04**
	Client	Fairhurst	

SEDIMENT CORE LOG

Date/Time:	01/02/2021 14:42	**Latitude/Longitude:**	55°38.65602‘, -004°49.35808'
Dredge Area:	Marina	**Sampled/logged by:**	AK/FR/NC
Method:	0.045m^2 Van-Veen Grab & Vibrocore	**Core Length (m):**	1.2

Remarks:

0.0 – 0.55m:
Dark brown silty sand with rare shell fragments.

0.55 – 1.2m:
Dark grey silty sand with rare shell fragments.

Biota: Worm noted at 0.2m.

Odours: None noted.

Anthropogenic Inputs: None noted.

Notes: Completed in 1 attempt.

envirocentre 8 Eagle Street, Craighall Business Park, Glasgow, G4 9XA	**Project Name**	Ardrossan Marina	**Location ID**
	Project No.	173958	**VC05**
	Client	Fairhurst	

SEDIMENT CORE LOG

Date/Time:	01/02/2021 16:15	**Latitude/Longitude:**	55°38.60568‘, -004°49.32107'
Dredge Area:	Marina	**Sampled/logged by:**	AK/FR/NC
Method:	0.045m^2 Van-Veen Grab & Vibrocore	**Core Length (m):**	1.25

Remarks:

0.0 – 0.15m (grab):
Brown silty fine sand.

0.25 – 0.35m:
Brown silty fine sand with rare shell fragments.

0.35 – 0.75m:
Dark grey silty fine sand.

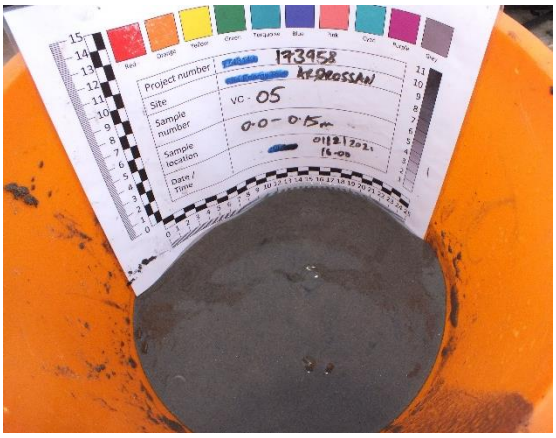
0.75 – 1.25m:
Brown and dark grey silty fine sand with rare buried seaweed.

Biota: Two worms noted in grab sample (0.0 – 0.15m)

Odours: None noted.

Anthropogenic Inputs: None noted.

Notes: 2 attempts made. Attempt #2 sub-sampled.



envirocentre 8 Eagle Street, Craighall Business Park, Glasgow, G4 9XA	**Project Name**	Ardrossan Marina	**Location ID**
	Project No.	173958	**VC06**
	Client	Fairhurst	

SEDIMENT CORE LOG

Date/Time:	01/02/2021 16:49	**Latitude/Longitude:**	55°38.69040‘, -004°49.36531'
Dredge Area:	Marina	**Sampled/logged by:**	AK/FR/NC
Method:	0.045m^2 Van-Veen Grab & Vibrocore	**Core Length (m):**	1.0

Remarks:

0.0 – 0.25m:
Brown silty fine sand.

0.25 – 0.7m:
Dark grey silty fine sand with rare shells and shell fragments.

0.7 – 1.0m:
Brown silty fine sand with rare shells and shell fragments.

Biota: None noted.

Odours: None noted.

Anthropogenic Inputs: None noted.

Notes: Completed in 1 attempt.

envirocentre 8 Eagle Street, Craighall Business Park, Glasgow, G4 9XA	**Project Name**	Ardrossan Marina	**Location ID**
	Project No.	173958	**VC07**
	Client	Fairhurst	

SEDIMENT CORE LOG

Date/Time:	02/02/2021 14:45	**Latitude/Longitude:**	55°38.67858‘, -004°49.29293'
Dredge Area:	Marina	**Sampled/logged by:**	AK/FR/NC
Method:	0.045m^2 Van-Veen Grab & Vibrocore	**Core Length (m):**	1.0

Remarks:

0.0 – 0.15m (grab):
Brown silty fine sand.

0.15 – 0.3m:
Brown silty fine sand with rare buried seaweed.

0.3 – 1.0m:
Dark greyish-brown very slightly gravelly silty fine sand. Gravel is fine and shell fragment derived.

Biota: None noted.

Odours: None noted.

Anthropogenic Inputs: None noted.

Notes: Completed in 1 attempt.

envirocentre 8 Eagle Street, Craighall Business Park, Glasgow, G4 9XA	**Project Name**	Ardrossan Marina	**Location ID**
	Project No.	173958	**VC08**
	Client	Fairhurst	

SEDIMENT CORE LOG

Date/Time:	02/02/2021 13:30	**Latitude/Longitude:**	55°38.62992‘, -004°49.29802'
Dredge Area:	Marina	**Sampled/logged by:**	AK/FR/NC
Method:	0.045m² Van-Veen Grab & Vibrocore	**Core Length (m):**	1.1

Remarks:

0.0 – 0.6m:
Brown silty fine sand.

0.6 – 1.1m:
Dark greyish-brown silty fine sand.

Biota: None noted.

Odours: None noted.

Anthropogenic Inputs: Small piece of metal noted at 0.3m.

Notes: 3 attempts made. Attempt #3 sub-sampled.

envirocentre 8 Eagle Street, Craighall Business Park, Glasgow, G4 9XA	**Project Name**	Ardrossan Marina	**Location ID**
	Project No.	173958	**VC09**
	Client	Fairhurst	

SEDIMENT CORE LOG

Date/Time:	02/02/2021 12:30	**Latitude/Longitude:**	55°38.59086‘, -004°49.26088'
Dredge Area:	Marina	**Sampled/logged by:**	AK/FR/NC
Method:	0.045m² Van-Veen Grab & Vibrocore	**Core Length (m):**	1.0

Remarks:

0.0 – 0.15m (grab):
Brown silty fine sand with rare shell fragments.

0.15 – 0.4m:
Dark brown silty fine sand.

0.4 – 0.7m:
Dark grey silty fine sand.

0.7 – 0.75m:
Dark grey gravelly sand with frequent shell fragments.

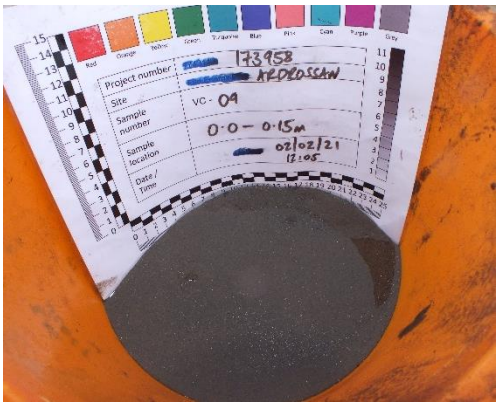
0.75 – 1.0m:
Dark grey silty sand.

Biota: None noted.

Odours: None noted.

Anthropogenic Inputs: None noted.

Notes: 3 attempts made. Attempt #3 sub-sampled.



envirocentre 8 Eagle Street, Craighall Business Park, Glasgow, G4 9XA	**Project Name**	Ardrossan Marina	**Location ID**
	Project No.	173958	**VC10**
	Client	Fairhurst	

SEDIMENT CORE LOG

Date/Time:	02/02/2021 10:15	**Latitude/Longitude:**	55°38.56878‘, -004°49.28408'
Dredge Area:	Marina	**Sampled/logged by:**	AK/FR/NC
Method:	0.045m^2 Van-Veen Grab & Vibrocore	**Core Length (m):**	2.0

Remarks:

0.0 – 0.15m (grab):
Brown silty fine sand.

1.0 – 2.0m:
Dark greyish-brown slightly sandy silt. Sand is fine.

Biota: A few worms noted in grab.

Odours: H_2S odour noted between 1.8 and 2.0m.

Anthropogenic Inputs: None noted.

Notes: Completed in 1 attempt.
0.0 – 0.5m and 0.5 – 1.0m core sections retained.

C ANALYTICAL RESULTS AND REUSE SUMMARY

Ardrossan Marina

Table A-1: Human Health Risk Assessment (Sediment)

Determinand	Units	MRL	Min	Max	Average	Assessment Criteria	Source	VC01	VC01	VC01	VC02	VC02	VC02	VC03	VC03	VC03	VC04	VC04	VC04	VC05	VC05	VC05	VC06	VC06	VC06	VC07	VC07	VC07	VC08	VC08	VC08	VC09	VC09	VC09	VC10	VC10	VC10
							Depth (m):	0.00-0.15	0.40-0.90	0.90-1.40	0.00-0.15	0.15-0.40	0.40-0.90	0.00-0.15	0.15-0.50	0.50-1.00	0.00-0.15	0.70-1.20	0.70-1.20	0.00-0.15	0.25-0.75	0.75-1.25	0.00-0.15	0.15-0.50	0.50-1.00	0.00-0.15	0.15-0.50	0.50-1.00	0.00-0.15	0.15-0.60	0.60-1.10	0.00-0.15	0.15 -0.50	0.50-1.00	0.00-0.15	1.00-1.50	1.50-2.00
							Date Sampled:	01/02/2021	01/02/2021	01/02/2021	01/02/2021	01/02/2021	01/02/2021	01/02/2021	01/02/2021	01/02/2021	01/02/2021	01/02/2021	01/02/2021	01/02/2021	01/02/2021	01/02/2021	01/02/2021	01/02/2021	01/02/2021	02/02/2021	02/02/2021	02/02/2021	02/02/2021	02/02/2021	02/02/2021	02/02/2021	02/02/2021	02/02/2021	02/02/2021	02/02/2021	02/02/2021
Physical																																					
Total Moisture @ 120°C	%	0.2	19.4	28.4	23.1			28.4	22.0	19.4	26.2	23.2	22.9	23.1	23.2	23.8	23.0	22.9	23.9	19.6	20.4	22.2	24.0	21.8	22.2	20.9	23.7	22.4	19.6	23.1	23.6	20.6	24.3	23.8	32.7	23.1	23.8
Total Solids	%	0.2	67.3	80.6	76.9			71.6	78.0	80.6	73.8	76.8	77.1	76.9	76.8	76.2	77.0	77.1	76.1	80.4	79.6	77.8	76.0	78.2	77.8	79.1	76.3	77.6	80.4	76.9	76.4	79.4	75.7	76.2	67.3	76.9	76.2
Gravel (>2mm)	%	-	-	0	0.1			0.0	0.0	0.0	0.0	0.0	0.25	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	0.6	0.0	0.0	0.5	0.0	0.0	0.9	0.5	0.0	0.0	0.0
Sand (63-2000 µm)	%	-	89.4	97.5	96.2			97.0	93.9	95.2	97.1	96.2	95.8	97.1	96.8	95.6	97.3	95.7	95.8	97.5	97.1	97.2	100	96.9	100	100	96.4	96.8	97.3	96.6	94.0	97.4	94.8	93.9	96.8	90.7	89.4
Silt (<63 µm)	%	-	-	6.1	3.7			3.0	6.1	4.8	2.9	3.8	4.2	2.9	3.2	4.4	2.7	4.3	4.2	2.5	2.9	2.8	0.0	3.1	0.0	0.0	3.0	3.2	2.7	2.8	6.0	2.6	4.3	5.6	3.2	9.3	10.6
Asbestos		-	-	-	-			NAIIS	NAIIS	NAIIS	NAIIS	NAIIS	NAIIS	NAIIS	NAIIS	NAIIS	NAIIS	NAIIS	NAIIS	NAIIS	NAIIS	NAIIS	NAIIS	NAIIS	NAIIS	NAIIS	NAIIS	NAIIS	NAIIS	NAIIS	NAIIS	NAIIS	NAIIS	NAIIS	NAIIS	NAIIS	NAIIS
TOC	%	0.02	0.12	0.91	0.3			0.14	0.26	0.20	0.12	0.27	0.27	0.12	0.19	0.31	0.15	0.91	0.42	0.15	0.13	0.14	0.13	0.17	0.38	0.12	0.28	0.27	0.12	0.14	0.34	0.18	0.32	1.19	0.21	0.40	0.58
Metals																																					
Arsenic	mg/kg	0.5	4.1	31.3	14.3	37	S4UL resi+PU 6%	6.5	7.7	27.9	7.1	5.3	20.6	31.3	19.7	24.5	16.2	8.4	8.1	6.0	31.2	5.0	32.0	6.0	15.0	9.5	9.2	12.6	7.7	4.1	13.1	15.1	23.2	16.9	11.8	11.8	15.4
Cadmium	mg/kg	0.04	0.06	0.26	0.1	11	S4UL resi+PU 6%	0.13	0.17	0.26	0.07	0.11	0.25	0.08	0.14	0.22	0.06	0.19	0.23	0.12	0.08	0.10	0.10	0.12	0.19	0.08	0.10	0.22	0.12	0.08	0.17	0.10	0.12	0.24	0.17	0.21	0.22
Chromium	mg/kg	0.5	31.4	57.8	47.0	910	S4UL resi+PU 6%	57.8	50.0	55.9	53.4	53.1	51.7	53.8	49.7	53.4	51.6	52.9	51.0	41.9	36.1	38.1	45.4	45.9	46.6	35.4	33.9	45.8	31.4	32.2	44.9	43.4	41.9	53.1	55.9	52.2	51.2
Copper	mg/kg	0.5	7.9	15.8	11.7	2400	S4UL resi+PU 6%	12.0	15.7	15.8	10.8	11.9	14.9	10.6	10.2	12.3	10.0	14.2	13.9	9.6	9.4	9.7	9.9	9.8	12.3	9.2	9.7	13.4	7.9	9.1	13.4	10.4	13.4	15.5	10.8	10.9	13.0
Mercury	mg/kg	0.01	0.03	0.28	0.1	40	S4UL resi+PU 6%	0.08	0.28	0.22	0.07	0.08	0.15	0.08	0.08	0.17	0.07	0.18	0.18	0.05	0.04	0.04	0.03	0.07	0.11	0.04	0.07	0.13	0.04	0.04	0.20	0.07	0.13	0.39	0.07	0.08	0.11
Nickel	mg/kg	0.5	33.8	59	48.7	180	S4UL resi+PU 6%	59.0	50.3	56.0	55.5	53.8	53.0	55.3	52.6	55.1	55.0	54.4	52.0	44.6	38.3	41.3	47.8	47.8	46.6	38.2	36.3	47.9	33.8	34.2	46.0	45.1	44.2	54.7	58.6	53.5	50.9
Lead	mg/kg	0.5	12.4	47.9	24.2	190	CASL	20.6	47.9	41.9	19.3	20.6	36.9	19.2	19.0	29.0	17.1	33.1	37.3	14.8	14.3	13.9	13.8	16.4	28.6	13.3	17.1	32.6	12.4	13.8	36.5	16.3	30.9	45.4	19.0	20.1	24.8
Zinc	mg/kg	2	51.5	125	80.1	3700	S4UL resi+PU 6%	84.5	114	125	77.0	77.6	101	77.7	69.4	99.9	75.5	96.6	97.4	63.5	57.9	72.3	66.3	68.7	85.9	57.8	62.7	84.3	51.5	60.2	90.5	64.7	79.9	104	80.9	76.9	80.5
Organotins																																					
Dibutyltin (DBT)	µg/kg	1	<5	<5				<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Tributyltin (TBT)	µg/kg	1	<5	<5				<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
PAHs & THC																																					
Acenaphthene	µg/kg	1	1.1	51.5	12.4	210000	S4UL resi+PU 1%	<1	2.19	4.12	<1	3.98	51.5	<1	<1	26.2	1.10	22.2	24.6	<1	2.75	1.84	<1	1.25	1.86	<1	14.4	4.75	1.42	3.45	9.80	<1	32.0	39.5	<1	7.08	4.58
Acenaphthylene	µg/kg	1	1.02	24.1	8.1	170000	S4UL resi+PU 1%	<1	4.49	1.78	<1	1.40	3.39	<1	1.15	16.9	<1	24.1	3.58	<1	<1	2.76	<1	<1	1.02	<1	12.8	3.01	1.99	1.08	9.04	<1	7.70	56.7	1.41	4.00	3.91
Anthracene	µg/kg	1	1.04	93.3	29.5	2400000	S4UL resi+PU 1%	2.86	12.9	12.1	1.44	7.94	82.8	1.93	3.36	78.9	4.61	93.3	43.2	1.82	6.30	10.3	2.03	5.61	7.05	1.04	66.2	21.4	6.55	9.39	47.5	3.28	133	161	5.60	32.2	18.3
Benzo[a]anthracene	µg/kg	1	2.88	257	83.9	7200	S4UL resi+PU 1%	10.1	35.2	30.2	6.14	23.7	115	6.77	16.0	257	16.7	211	97.0	6.46	17.5	36.6	5.34	11.3	21.8	2.88	241	51.9	10.7	24.7	188	9.80	338	566	19.1	84.7	57.6
Benzo[a]pyrene	µg/kg	1	3.45	252	94.7	2200	S4UL resi+PU 1%	11.0	51.1	35.4	6.98	26.1	118	8.31	18.6	252	16.2	198	95.7	7.46	18.3	33.9	6.83	18.8	24.9	3.45	215	60.9	10.8	26.3	221	12.5	324	863	20.7	75.8	59.2
Benzo[b]fluoranthene	µg/kg	1	3.41	233	82.7	2600	S4UL resi+PU 1%	11.0	50.0	34.5	6.70	20.5	98.5	7.63	19.7	233	16.0	154	85.8	7.44	16.6	30.6	5.77	17.3	25.2	3.41	178	64.2	9.91	22.3	208	13.40	299	691	19.3	78.0	54.5
Benzo[ghi]perylene	µg/kg	1	3.48	199	64.3	320000	S4UL resi+PU 1%	8.90	40.5	25.2	5.61	18.7	80.5	6.81	14.8	199	11.2	124	67.5	6.50	13.9	23.0	6.62	17.8	22.5	3.48	134	48.0	8.95	19.5	158	10.90	206	528	17.5	60.7	40.6
Benzo[k]fluoranthene	µg/kg	1	2.15	122	42.9	77000	S4UL resi+PU 1%	6.11	24.8	18.6	3.14	11.1	57.4	3.27	9.70	122	7.28	95.6	46.8	3.31	8.83	19.1	4.95	8.64	12.7	2.15	115	36.1	4.23	13.2	86.5	6.97	156	321	10.6	40.8	30.4
Chrysene	µg/kg	1	3.59	256	85.5	15000	S4UL resi+PU 1%	10.7	39.8	30.7	6.73	24.1	133	7.23	17.4	256	16.8	207	97.5	7.18	18.4	38.0	6.18	13.3	28.6	3.59	227	59.4	11.7	26.7	198	11.4	330	574	19.8	86.2	58.6
Dibenzo[ah]anthracene	µg/kg	1	1.03	43.4	15.4	240	S4UL resi+PU 1%	1.80	8.71	5.63	1.03	3.91	21.2	1.27	3.48	43.4	2.80	33.4	20.0	1.37	3.00	5.38	1.23	2.65	3.74	<1	30.9	7.60	1.78	4.07	35.4	2.17	50.6	125	3.64	12.5	8.73
Fluoranthene	µg/kg	1	6.6	402	140.4	280000	S4UL resi+PU 1%	21.1	58.2	54.7	11.0	40.0	253	10.9	20.3	402	29.8	348	176	12.0	29.1	66.6	9.13	20.9	55.1	6.60	342	89.4	19.0	42.5	260	18.0	615	898	30.6	162	112
Fluorene	µg/kg	1	1.02	44.1	15.4	170000	S4UL resi+PU 1%	<1	5.22	5.15	<1	3.64	41.0	<1	1.26	34.8	1.47	44.1	25.4	<1	3.47	3.99	<1	1.99	2.48	<1	25.7	9.20	2.48	3.82	17.4	1.02	38.0	78.3	1.61	11.9	6.68
Indeno[1,2,3-cd]pyrene	µg/kg	1	3.25	201	72.3	27000	S4UL resi+PU 1%	9.92	44.3	28.0	6.29	19.6	90.5	7.58	17.1	201	13.3	136	72.2	7.05	14.9	24.9	6.41	16.0	20.4	3.25	135	46.3	8.23	19.3	172	11.3	243	668	18.2	61.1	46.60
Naphthalene	µg/kg	1	1.12	25.3	15.6	2300	S4UL resi+PU 1%	1.46	6.02	4.04	<1	3.06	24.1	<1	1.89	22.4	2.63	25.3	13.6	<1	3.63	4.59	1.12	4.76	5.68	1.12	42.3	13.6	4.11	7.43	30.9	2.35	29.4	136	5.01	17.6	8.32
Phenanthrene	µg/kg	1	3.25	263	92.5	95000	S4UL resi+PU 1%	8.15	33.1	37.5	3.96	26.5	256	5.12	8.79	258	15.0	263	136	5.59	21.2	39.8	5.17	15.8	31.1	3.25	210	63.9	13.4	27.1	133	7.83	404	566	14.6	107	56.20
Pyrene	µg/kg	1	7	436	161.8	620000	S4UL resi+PU 1%	19.7	77.9	59.6	10.9	45.1	262	10.8	24.6	436	27.2	407	191	12.1	33.1	66.1	10.8	26.5	63.7	7.00	366	147	23.9	47.2	353	20.3	589	1210	32.6	158	117
Total Hydrocarbons (THC)	µg/kg	100	7950	72700	32046.3	1000000	N/A	9430	42100	26400	7950	16900	35400	9050	12200	72700	11000	52500	35800	11500	13500	15000	8330	19000	20400	9330	48300	44800	14000	16800	80700	16600	61800	144000	28600	35700	41600
PCBs																																					
PCB28	µg/kg	0.08	0.08	0.12	0.1			<0.08	<0.08	0.10	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	0.12	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	0.08	<0.08	<0.08	<0.08	<0.08	<0.08	0.09	<0.08	<0.08	<0.08	<0.08	0.10	0.09
PCB52	µg/kg	0.08	0.08	0.14	0.1			<0.08	<0.08	0.09	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	0.14	0.08	<0.08	<0.08	<0.08	<0.08	<0.08	0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	0.08
PCB101	µg/kg	0.08	0.09	0.19	0.1			<0.08	<0.08	0.16	<0.08	<0.08	0.14	<0.08	<0.08	<0.08	<0.08	0.19	0.10	<0.08	<0.08	<0.08	<0.08	<0.08	0.13	<0.08	<0.08	<0.08	<0.08	<0.08	0.13	<0.08	<0.08	<0.08	<0.08	0.09	0.10
PCB118	µg/kg	0.08	0.1	0.19	0.1			<0.08	<0.08	0.13	<0.08	<0.08	0.10	<0.08	<0.08	<0.08	<0.08	0.19	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	0.12	<0.08	<0.08	<0.08	<0.08	<0.08	0.11	<0.08	<0.08	<0.08	<0.08	<0.08	0.10
PCB138	µg/kg	0.08	0.09	0.22	0.1			<0.08	<0.08	0.20	<0.08	<0.08	0.13	<0.08	<0.08	<0.08	<0.08	0.22	0.10	<0.08	<0.08	<0.08	<0.08	<0.08	0.12	<0.08	<0.08	<0.08	<0.08	<0.08	0.14	<0.08	<0.08	<0.08	<0.08	0.09	<0.08
PCB153	µg/kg	0.08	0.08	0.29	0.2			<0.08	<0.08	0.29	<0.08	<0.08	0.21	<0.08	<0.08	<0.08	<0.08	0.24	0.11	<0.08	<0.08	<0.08	<0.08	<0.08	0.12	<0.08	0.08	<0.08	<0.08	<0.08	0.21	<0.08	0.09	<0.08	<0.08	<0.08	0.09
PCB180	µg/kg	0.08	0.09	0.16	0.1			<0.08	<0.08	0.16	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	0.09	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08

Certificate of Analysis

Issuing Laboratory SOCOTEC, Marine Department, Specialist Chemistry, Etwall House, Bretby Business Park, Ashby Road, Bretby, Burton-upon-Trent DE15 0YZ

Test Report ID	MAR00909
Issue Version	1
Customer Reference	Ardrossan Marine Scotland Sediment Analysis

		Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pH Units	mg/L
		Method No	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Spec Chem*
		EQS Assessment Criteria	0.025	0.0002	0.032	0.00376	0.0013	0.0086	0.0079	N/A	0.000005
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic as As (Dissolved)**	**Cadmium as Cd (Dissolved)**	**Chromium as Cr (Dissolved)**	**Copper as Cu (Dissolved)**	**Lead as Pb (Dissolved)**	**Nickel as Ni (Dissolved)**	**Zinc as Zn (Dissolved)**	**pH Units**	**Low Level Mercury**
VC01 @ 11.30 0.00-0.15	MAR00909.001	Sediment Leachate (10:1)	0.004	<0.00002	<0.001	0.002	<0.001	<0.001	0.002	7.5	<0.000005
VC01 @ 11;30 0.90-1.40	MAR00909.003	Sediment Leachate (10:1)	0.001	<0.00002	<0.001	<0.001	<0.001	<0.001	0.002	7.5	<0.000005
VC02 @ 12:40 0.15-0.40	MAR00909.005	Sediment Leachate (10:1)	0.003	<0.00002	<0.001	<0.001	<0.001	<0.001	<0.002	7.4	<0.000005
VC03 @ 14:10 0.50-1.00	MAR00909.009	Sediment Leachate (10:1)	0.001	<0.00002	<0.001	<0.001	<0.001	<0.001	0.004	7.5	<0.000005
VC04 @ 14:40 0.20-0.70	MAR00909.011	Sediment Leachate (10:1)	0.002	<0.00002	<0.001	<0.001	<0.001	<0.001	0.002	7.5	<0.000005
VC05 @ 16:15 0.25-0.75	MAR00909.014	Sediment Leachate (10:1)	0.002	<0.00002	<0.001	<0.001	<0.001	<0.001	<0.002	7.5	<0.000005
VC06 @ 16:50 0.50-1.00	MAR00909.018	Sediment Leachate (10:1)	0.002	<0.00002	<0.001	0.003	<0.001	<0.001	<0.002	7.4	<0.000005
VC08 @ 13:30 0.60-1.10	MAR00909.024	Sediment Leachate (10:1)	0.002	<0.00002	<0.001	<0.001	<0.001	<0.001	<0.002	7.5	<0.000005
VC09 @ 12:30 0.15 -0.50	MAR00909.026	Sediment Leachate (10:1)	0.005	<0.00002	<0.001	0.003	<0.001	<0.001	0.005	7.4	<0.000005
VC10 @ 10:15 0.00-0.15	MAR00909.028	Sediment Leachate (10:1)	0.003	0.00003	<0.001	<0.001	<0.001	<0.001	0.003	7.5	<0.000005
VC10 @ 10:15 1.00-1.50	MAR00909.029	Sediment Leachate (10:1)	0.003	<0.00002	<0.001	<0.001	<0.001	<0.001	<0.002	8.0	<0.000005
VC10 @10:15 1.50-2.00	MAR00909.030	Sediment Leachate (10:1)	0.002	<0.00002	<0.001	<0.001	<0.001	<0.001	0.003	8.2	<0.000005
		Blank Spike (% Recovery)	100	99	100	99	99	100	97	–	–
		QC Blank	<0.001	<0.00002	<0.001	<0.001	<0.001	<0.001	<0.002	–	–

* See Report Notes

Certificate of Analysis

Issuing Laboratory SOCOTEC, Marine Department, Specialist Chemistry, Etwall House, Bretby Business Park, Ashby Road, Bretby, Burton-upon-Trent DE15 0YZ

Test Report ID MAR00909
Issue Version 1
Customer Reference Ardrossan Marine Scotland Sediment Analysis

		Units	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
		Method No	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*
		Limit of Detection	5	5	10	5	5	0.1	0.1	0.005	0.1	0.02	0.1	0.005	0.1
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	No	No	No	No	No	No	No	No
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Benzene**	**Ethyl Benzene**	**m/p Xylenes**	**o Xylene**	**Toluene**	**>C6-C7 Aliphatic**	**>C7-C8 Aliphatic**	**>C7-C8 Aromatic**	**>C8-C10 Aliphatic**	**>C8-C10 Aromatic**	**C5-C6 Aliphatic**	**C5-C7 Aromatic**	**Total GRO**
VC01 @ 11.30 0.00-0.15	MAR00909.001	Sediment Leachate (10:1)	<5	<5	<10	<5	<5	<0.100	<0.100	<0.005	<0.100	<0.020	<0.100	<0.005	<0.100
VC01 @ 11:30 0.90-1.40	MAR00909.003	Sediment Leachate (10:1)	<5	<5	<10	<5	<5	<0.100	<0.100	<0.005	<0.100	<0.020	<0.100	<0.005	<0.100
VC02 @ 12:40 0.15-0.40	MAR00909.005	Sediment Leachate (10:1)	<5	<5	<10	<5	<5	<0.100	<0.100	<0.005	<0.100	<0.020	<0.100	<0.005	<0.100
VC03 @ 14:10 0.50-1.00	MAR00909.009	Sediment Leachate (10:1)	<5	<5	<10	<5	<5	<0.100	<0.100	<0.005	<0.100	<0.020	<0.100	<0.005	<0.100
VC04 @ 14:40 0.20-0.70	MAR00909.011	Sediment Leachate (10:1)	<5	<5	<10	<5	<5	<0.100	<0.100	<0.005	<0.100	<0.020	<0.100	<0.005	<0.100
VC05 @ 16:15 0.25-0.75	MAR00909.014	Sediment Leachate (10:1)	<5	<5	<10	<5	<5	<0.100	<0.100	<0.005	<0.100	<0.020	<0.100	<0.005	<0.100
VC06 @ 16:50 0.50-1.00	MAR00909.018	Sediment Leachate (10:1)	<5	<5	<10	<5	<5	<0.100	<0.100	<0.005	<0.100	<0.020	<0.100	<0.005	<0.100
VC08 @ 13:30 0.60-1.10	MAR00909.024	Sediment Leachate (10:1)	<5	<5	<10	<5	<5	<0.100	<0.100	<0.005	<0.100	<0.020	<0.100	<0.005	<0.100
VC09 @ 12:30 0.15 -0.50	MAR00909.026	Sediment Leachate (10:1)	<5	<5	<10	<5	<5	<0.100	<0.100	<0.005	<0.100	<0.020	<0.100	<0.005	<0.100
VC10 @ 10:15 0.00-0.15	MAR00909.028	Sediment Leachate (10:1)	<5	<5	<10	<5	<5	<0.100	<0.100	<0.005	<0.100	<0.020	<0.100	<0.005	<0.100
VC10 @ 10:15 1.00-1.50	MAR00909.029	Sediment Leachate (10:1)	<5	<5	<10	<5	<5	<0.100	<0.100	<0.005	<0.100	<0.020	<0.100	<0.005	<0.100
VC10 @10:15 1.50-2.00	MAR00909.030	Sediment Leachate (10:1)	<5	<5	<10	<5	<5	<0.100	<0.100	<0.005	<0.100	<0.020	<0.100	<0.005	<0.100
Blank Spike (% Recovery)			108	93	95	103	110	108	110	110	97	97	108	108	104
QC Blank			< 5.0	< 5.0	< 10.0	< 5.0	< 5.0	< 0.100	< 0.100	< 0.005	< 0.100	<0.020	< 0.100	< 0.005	< 0.100

* See Report Notes

Certificate of Analysis

Issuing Laboratory SOCOTEC, Marine Department, Specialist Chemistry, Etwall House, Bretby Business Park, Ashby Road, Bretby, Burton-upon-Trent DE15 0YZ

Test Report ID	MAR00909
Issue Version	1
Customer Reference	Ardrossan Marine Scotland Sediment Analysis

		Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
		Method No	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*
		EQS Criteria	0.025	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**>C10-C12 (Aliphatic)**	**>C12-C16 (Aliphatic)**	**>C16-C21 (Aliphatic)**	**>C21-C35 (Aliphatic)**	**Total TPH (Aliphatic)**	**>C10-C12 (Aromatic)**	**>C12-C16 (Aromatic)**	**>C16-C21 (Aromatic)**	**>C21-C35 (Aromatic)**	**Total TPH (Aromatic)**
VC01 @ 11.30 0.00-0.15	MAR00909.001	Sediment Leachate (10:1)	<0.01	<0.01	0.02	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	0.020
VC01 @ 11;30 0.90-1.40	MAR00909.003	Sediment Leachate (10:1)	<0.01	0.01	0.01	<0.01	0.04	<0.01	0.01	<0.01	<0.01	0.030
VC02 @ 12:40 0.15-0.40	MAR00909.005	Sediment Leachate (10:1)	<0.01	<0.01	0.02	0.02	0.05	<0.01	0.02	<0.01	<0.01	0.030
VC03 @ 14:10 0.50-1.00	MAR00909.009	Sediment Leachate (10:1)	<0.01	<0.01	0.02	<0.01	0.04	<0.01	0.01	<0.01	<0.01	0.020
VC04 @ 14:40 0.20-0.70	MAR00909.011	Sediment Leachate (10:1)	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	0.01	<0.01	<0.01	0.030
VC05 @ 16:15 0.25-0.75	MAR00909.014	Sediment Leachate (10:1)	0.01	0.02	0.02	0.02	0.07	<0.01	0.01	<0.01	<0.01	0.020
VC06 @ 16:50 0.50-1.00	MAR00909.018	Sediment Leachate (10:1)	<0.01	0.01	<0.01	0.02	0.06	<0.01	<0.01	<0.01	<0.01	0.020
VC08 @ 13:30 0.60-1.10	MAR00909.024	Sediment Leachate (10:1)	<0.01	0.02	0.02	0.03	0.09	<0.01	0.01	<0.01	<0.01	0.030
VC09 @ 12:30 0.15 -0.50	MAR00909.026	Sediment Leachate (10:1)	<0.01	<0.01	<0.01	0.20	0.24	<0.01	<0.01	<0.01	<0.01	0.020
VC10 @ 10:15 0.00-0.15	MAR00909.028	Sediment Leachate (10:1)	<0.01	0.02	<0.01	<0.01	0.06	<0.01	<0.01	<0.01	<0.01	0.030
VC10 @ 10:15 1.00-1.50	MAR00909.029	Sediment Leachate (10:1)	<0.01	0.01	0.01	0.010	0.05	<0.01	0.01	<0.01	<0.01	0.030
VC10 @10:15 1.50-2.00	MAR00909.030	Sediment Leachate (10:1)	<0.01	0.01	<0.01	0.010	0.04	<0.01	<0.01	<0.01	<0.01	0.020
		Blank Spike (% Recovery)	113	95	114	103	108	100	104	107	108	95
		QC Blank	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

* See Report Notes

Certificate of Analysis

Issuing Laboratory SOCOTEC, Marine Department, Specialist Chemistry, Etwall House, Bretby Business Park, Ashby Road, Bretby, Burton-upon-Trent DE15 0YZ

Test Report ID MAR00909
Issue Version 1
Customer Reference Ardrossan Marine Scotland Sediment Analysis

		Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
		Method No	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*	SOCOTEC Env Chem*
		Limit of Detection	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Acenaphthene**	**Acenaphthylene**	**Anthracene**	**Benzo[a]anthracene**	**Benzo[a]pyrene**	**Benzo[b]fluoranthene**	**Benzo[g,h,i]perylene**	**Benzo[k]fluoranthene**	**Chrysene**	**Dibenzo[a,h]anthracene**	**Fluoranthene**	**Fluorene**	**Indeno[1,2,3-cd]pyrene**	**Naphthalene**	**Phenanthrene**	**Pyrene**
VC01 @ 11.30 0.00-0.15	MAR00909.001	Sediment Leachate (10:1)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
VC01 @ 11;30 0.90-1.40	MAR00909.003	Sediment Leachate (10:1)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
VC02 @ 12:40 0.15-0.40	MAR00909.005	Sediment Leachate (10:1)	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01
VC03 @ 14:10 0.50-1.00	MAR00909.009	Sediment Leachate (10:1)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
VC04 @ 14:40 0.20-0.70	MAR00909.011	Sediment Leachate (10:1)	0.06	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.07	<0.01	<0.01
VC05 @ 16:15 0.25-0.75	MAR00909.014	Sediment Leachate (10:1)	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01
VC06 @ 16:50 0.50-1.00	MAR00909.018	Sediment Leachate (10:1)	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01
VC08 @ 13:30 0.60-1.10	MAR00909.024	Sediment Leachate (10:1)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
VC09 @ 12:30 0.15 -0.50	MAR00909.026	Sediment Leachate (10:1)	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	0.02	<0.01	<0.01
VC10 @ 10:15 0.00-0.15	MAR00909.028	Sediment Leachate (10:1)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01
VC10 @ 10:15 1.00-1.50	MAR00909.029	Sediment Leachate (10:1)	0.06	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	0.07	<0.01	<0.01
VC10 @10:15 1.50-2.00	MAR00909.030	Sediment Leachate (10:1)	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	0.10	<0.01	<0.01
		Blank Spike (% Recovery)	112	104	87	100	96	106	111	97	107	106	97	113	113	115	105	95
		QC Blank	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

* See Report Notes

D SEA DISPOSAL ASSESSMENT

Table 7-1: Chemical Analysis Screening Summary

Sample ID	Metals		TBT		Hydro carbo ns	PAHs	PCBs	
Action Level	**AL1**	**AL2**	**AL1**	**AL2**	**AL1**	**AL1**	**AL1**	**AL2**
VC01 0-0.15	Fail	Pass	Pass	Pass	Pass	Pass	Pass	Pass
VC01 0.4-0.9	Fail	Pass	Pass	Pass	Pass	Pass	Pass	Pass
VC01 0.9-1.4	Fail	Pass	Pass	Pass	Pass	Pass	Pass	Pass
VC02 0-0.15	Fail	Pass	Fail	Pass	Pass	Pass	Pass	Pass
VC02 0.15-0.4	Fail	Pass	Pass	Pass	Pass	Pass	Pass	Pass
VC02 0.9-1.4	Fail	Pass	Pass	Pass	Pass	Fail	Pass	Pass
VC03 0-0.15	Fail	Pass	Pass	Pass	Pass	Pass	Pass	Pass
VC03 0.15-0.5	Fail	Pass	Pass	Pass	Pass	Pass	Pass	Pass
VC03 0.5-1.0	Fail	Pass	Pass	Pass	Pass	Fail	Pass	Pass
VC04 0-0.15	Fail	Pass	Pass	Pass	Pass	Fail	Pass	Pass
VC04 0.2-0.7	Fail	Pass	Pass	Pass	Fail	Pass	Pass	Pass
VC04 0.7-1.2	Fail	Pass	Pass	Pass	Fail	Pass	Pass	Pass
VC05 0-0.15	Fail	Pass	Pass	Pass	Fail	Pass	Pass	Pass
VC05 0.25-0.75	Fail	Pass	Pass	Pass	Pass	Pass	Pass	Pass
VC05 0.75-1.25	Fail	Pass	Pass	Pass	Pass	Pass	Pass	Pass
VC06 0-0.15	Fail	Pass	Pass		Pass	Pass	Pass	Pass
VC06 0.15-0.5	Fail	Pass	Pass		Pass	Pass	Pass	Pass
VC06 0.5-1.0	Fail	Pass	Pass		Pass	Pass	Pass	Pass
VC07 0-0.15	Fail	Pass	Pass		Pass	Pass	Pass	Pass
VC07 0.15-0.5	Fail	Pass	Pass		Pass	Fail	Pass	Pass
VC07 0.5-1.0	Fail	Pass	Pass		Pass	Fail	Pass	Pass
VC08 0-0.15	Fail	Pass	Pass		Pass	Pass	Pass	Pass
VC08 0.15-0.6	Fail	Pass	Pass		Pass	Pass	Pass	Pass

VC08 06-1.1	Fail	Pass	Pass		Pass	Fail	Pass	Pass
VC09 0-0.15	Fail	Pass	Pass		Pass	Pass	Pass	Pass
VC09 0.15-0.5	Fail	Pass	Pass		Pass	Fail	Pass	Pass
VC09 0.5-1.0	Fail	Pass	Pass		Pass	Fail	Pass	Pass
VC10 0-0.15	Fail	Pass	Pass		Pass	Pass	Pass	Pass
VC10 1-1.5	Fail	Pass	Pass		Pass	Fail	Pass	Pass
VC10 1.5-2.0	Fail	Pass	Pass		Pass	Fail	Pass	Pass

E WASTE CLASSIFICATION REPORT

Waste Classification Report

983J6-YA6QG-FXMEU

Job name

Ardrossan Sediment

Description/Comments

Project

Site

Related Documents

#	Name	Description
None		

Waste Stream Template

Example waste stream template for contaminated soils

Classified by

Name:
Graeme Duff
Date:
24 Mar 2021 14:14 GMT
Telephone:
0141 341 5040

Company:
EnviroCentre Limited
Craighall Business Park
8 Eagle Street
Glasgow
G4 9XA

HazWasteOnline™ Training Record:

Course	Date
Hazardous Waste Classification	15 Mar 2017
Advanced Hazardous Waste Classification	15 Mar 2018

Report

Created by: Graeme Duff
Created date: 24 Mar 2021 14:14 GMT

Job summary

#	Sample Name	Depth [m]	Classification Result	Hazard properties	Page
1	VC01 @ 11.30 0.00-0.15		Non Hazardous		3
2	VC01 @ 11:30 0.40-0.90		Non Hazardous		5
3	VC01 @ 11;30 0.90-1.40		Non Hazardous		7
4	VC02 @ 12:40 0.00-0.15		Non Hazardous		9
5	VC02 @ 12:40 0.15-0.40		Non Hazardous		11
6	VC02 @ 12:40 0.40-0.90		Non Hazardous		13
7	VC03 @ 14:10 0.00-0.15		Non Hazardous		15
8	VC03 @ 14:10 0.15-0.50		Non Hazardous		17
9	VC03 @ 14:10 0.50-1.00		Non Hazardous		19
10	VC04 @ 14:40 0.00-0.15		Non Hazardous		21
11	VC04 @ 14:40 0.20-0.70		Non Hazardous		23
12	VC04 @ 14:40 0.70-1.20		Non Hazardous		25

Classification of sample: VC01 @ 11.30 0.00-0.15

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC01 @ 11.30 0.00-0.15

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		6.5	mg/kg	1.32	8.582	mg/kg	0.000858 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.13	mg/kg	1.142	0.149	mg/kg	0.0000149 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				57.8	mg/kg	2.27	131.206	mg/kg	0.0131 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		12	mg/kg	1.126	13.511	mg/kg	0.00135 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	20.6	mg/kg	1.56	32.132	mg/kg	0.00206 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.08	mg/kg	1.353	0.108	mg/kg	0.0000108 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		59	mg/kg	2.976	175.6	mg/kg	0.0176 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		84.5	mg/kg	2.774	234.415	mg/kg	0.0234 %		
9		TPH (C6 to C40) petroleum group			TPH		9.43	mg/kg		9.43	mg/kg	0.000943 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		0.0014	mg/kg		0.0014	mg/kg	0.000000146 %		
11		acenaphthylene		205-917-1	208-96-8		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
12		acenaphthene		201-469-6	83-32-9		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
13		fluorene		201-695-5	86-73-7		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
14		phenanthrene		201-581-5	85-01-8		0.0081	mg/kg		0.0081	mg/kg	0.000000815 %		
15		anthracene		204-371-1	120-12-7		0.0028	mg/kg		0.0028	mg/kg	0.000000286 %		
16		fluoranthene		205-912-4	206-44-0		0.0211	mg/kg		0.0211	mg/kg	0.00000211 %		

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
17	•	pyrene				0.0197 mg/kg		0.0197 mg/kg	0.00000197 %		
			204-927-3	129-00-0							
18		benzo[a]anthracene				0.0101 mg/kg		0.0101 mg/kg	0.00000101 %		
		601-033-00-9	200-280-6	56-55-3							
19		chrysene				0.0107 mg/kg		0.0107 mg/kg	0.00000107 %		
		601-048-00-0	205-923-4	218-01-9							
20		benzo[b]fluoranthene				0.011 mg/kg		0.011 mg/kg	0.0000011 %		
		601-034-00-4	205-911-9	205-99-2							
21		benzo[k]fluoranthene				1.1e-05 mg/kg		1.1e-05 mg/kg	0.000000001 %		
		601-036-00-5	205-916-6	207-08-9							
22		benzo[a]pyrene; benzo[def]chrysene				0.011 mg/kg		0.011 mg/kg	0.0000011 %		
		601-032-00-3	200-028-5	50-32-8							
23	•	indeno[123-cd]pyrene				0.0099 mg/kg		0.0099 mg/kg	0.000000992 %		
			205-893-2	193-39-5							
24		dibenz[a,h]anthracene				0.0018 mg/kg		0.0018 mg/kg	0.00000018 %		
		601-041-00-2	200-181-8	53-70-3							
25	•	benzo[ghi]perylene				0.0089 mg/kg		0.0089 mg/kg	0.00000089 %		
			205-883-8	191-24-2							
								Total:	0.0597 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00094%)

Classification of sample: VC01 @ 11:30 0.40-0.90

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC01 @ 11:30 0.40-0.90

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7.7	mg/kg	1.32	10.167	mg/kg	0.00102 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.17	mg/kg	1.142	0.194	mg/kg	0.0000194 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				50	mg/kg	2.27	113.5	mg/kg	0.0114 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		15.7	mg/kg	1.126	17.676	mg/kg	0.00177 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	47.9	mg/kg	1.56	74.715	mg/kg	0.00479 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.28	mg/kg	1.353	0.379	mg/kg	0.0000379 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		50.3	mg/kg	2.976	149.706	mg/kg	0.015 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		114	mg/kg	2.774	316.253	mg/kg	0.0316 %		
9		TPH (C6 to C40) petroleum group			TPH		42.1	mg/kg		42.1	mg/kg	0.00421 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		0.006	mg/kg		0.006	mg/kg	0.000000602 %		
11		acenaphthylene		205-917-1	208-96-8		0.0044	mg/kg		0.0044	mg/kg	0.000000449 %		
12		acenaphthene		201-469-6	83-32-9		0.0021	mg/kg		0.0021	mg/kg	0.000000219 %		
13		fluorene		201-695-5	86-73-7		0.0052	mg/kg		0.0052	mg/kg	0.000000522 %		
14		phenanthrene		201-581-5	85-01-8		0.0331	mg/kg		0.0331	mg/kg	0.00000331 %		
15		anthracene		204-371-1	120-12-7		0.0129	mg/kg		0.0129	mg/kg	0.00000129 %		
16		fluoranthene		205-912-4	206-44-0		0.0582	mg/kg		0.0582	mg/kg	0.00000582 %		

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
17		pyrene				0.0779 mg/kg		0.0779 mg/kg	0.00000779 %		
			204-927-3	129-00-0							
18		benzo[a]anthracene				0.0352 mg/kg		0.0352 mg/kg	0.00000352 %		
		601-033-00-9	200-280-6	56-55-3							
19		chrysene				0.0398 mg/kg		0.0398 mg/kg	0.00000398 %		
		601-048-00-0	205-923-4	218-01-9							
20		benzo[b]fluoranthene				0.05 mg/kg		0.05 mg/kg	0.000005 %		
		601-034-00-4	205-911-9	205-99-2							
21		benzo[k]fluoranthene				5.0e-05 mg/kg		5.0e-05 mg/kg	0.000000005 %		
		601-036-00-5	205-916-6	207-08-9							
22		benzo[a]pyrene; benzo[def]chrysene				0.0511 mg/kg		0.0511 mg/kg	0.00000511 %		
		601-032-00-3	200-028-5	50-32-8							
23		indeno[123-cd]pyrene				0.0443 mg/kg		0.0443 mg/kg	0.00000443 %		
			205-893-2	193-39-5							
24		dibenz[a,h]anthracene				0.0087 mg/kg		0.0087 mg/kg	0.000000871 %		
		601-041-00-2	200-181-8	53-70-3							
25		benzo[ghi]perylene				0.0405 mg/kg		0.0405 mg/kg	0.00000405 %		
			205-883-8	191-24-2							
								Total:	0.0698 %		

Key

	User supplied data
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00421%)

Classification of sample: VC01 @ 11;30 0.90-1.40

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC01 @ 11;30 0.90-1.40

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		27.9	mg/kg	1.32	36.837	mg/kg	0.00368 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.26	mg/kg	1.142	0.297	mg/kg	0.0000297 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				55.9	mg/kg	2.27	126.893	mg/kg	0.0127 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		15.8	mg/kg	1.126	17.789	mg/kg	0.00178 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	41.9	mg/kg	1.56	65.356	mg/kg	0.00419 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.22	mg/kg	1.353	0.298	mg/kg	0.0000298 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		56	mg/kg	2.976	166.671	mg/kg	0.0167 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		125	mg/kg	2.774	346.768	mg/kg	0.0347 %		
9		TPH (C6 to C40) petroleum group			TPH		26.4	mg/kg		26.4	mg/kg	0.00264 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		0.004	mg/kg		0.004	mg/kg	0.000000404 %		
11		acenaphthylene		205-917-1	208-96-8		0.0017	mg/kg		0.0017	mg/kg	0.000000178 %		
12		acenaphthene		201-469-6	83-32-9		0.0041	mg/kg		0.0041	mg/kg	0.000000412 %		
13		fluorene		201-695-5	86-73-7		0.0051	mg/kg		0.0051	mg/kg	0.000000515 %		
14		phenanthrene		201-581-5	85-01-8		0.0375	mg/kg		0.0375	mg/kg	0.00000375 %		
15		anthracene		204-371-1	120-12-7		0.0121	mg/kg		0.0121	mg/kg	0.00000121 %		
16		fluoranthene		205-912-4	206-44-0		0.0547	mg/kg		0.0547	mg/kg	0.00000547 %		

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
17	•	pyrene				0.0596 mg/kg		0.0596 mg/kg	0.00000596 %		
			204-927-3	129-00-0							
18		benzo[a]anthracene				0.0302 mg/kg		0.0302 mg/kg	0.00000302 %		
		601-033-00-9	200-280-6	56-55-3							
19		chrysene				0.0307 mg/kg		0.0307 mg/kg	0.00000307 %		
		601-048-00-0	205-923-4	218-01-9							
20		benzo[b]fluoranthene				0.0345 mg/kg		0.0345 mg/kg	0.00000345 %		
		601-034-00-4	205-911-9	205-99-2							
21		benzo[k]fluoranthene				3.45e-05 mg/kg		3.45e-05 mg/kg	0.000000003 %		
		601-036-00-5	205-916-6	207-08-9							
22		benzo[a]pyrene; benzo[def]chrysene				0.0354 mg/kg		0.0354 mg/kg	0.00000354 %		
		601-032-00-3	200-028-5	50-32-8							
23	•	indeno[123-cd]pyrene				0.028 mg/kg		0.028 mg/kg	0.0000028 %		
			205-893-2	193-39-5							
24		dibenz[a,h]anthracene				0.0056 mg/kg		0.0056 mg/kg	0.000000563 %		
		601-041-00-2	200-181-8	53-70-3							
25	•	benzo[ghi]perylene				0.0252 mg/kg		0.0252 mg/kg	0.00000252 %		
			205-883-8	191-24-2							
								Total:	0.0764 %		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00264%)

Classification of sample: VC02 @ 12:40 0.00-0.15

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC02 @ 12:40 0.00-0.15

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7.1	mg/kg	1.32	9.374	mg/kg	0.000937 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.07	mg/kg	1.142	0.08	mg/kg	0.000008 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				53.4	mg/kg	2.27	121.218	mg/kg	0.0121 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		10.8	mg/kg	1.126	12.16	mg/kg	0.00122 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	19.3	mg/kg	1.56	30.104	mg/kg	0.00193 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.07	mg/kg	1.353	0.0947	mg/kg	0.00000947 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		55.5	mg/kg	2.976	165.183	mg/kg	0.0165 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		77	mg/kg	2.774	213.609	mg/kg	0.0214 %		
9		TPH (C6 to C40) petroleum group			TPH		7.95	mg/kg		7.95	mg/kg	0.000795 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
11		acenaphthylene		205-917-1	208-96-8		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
12		acenaphthene		201-469-6	83-32-9		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
13		fluorene		201-695-5	86-73-7		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
14		phenanthrene		201-581-5	85-01-8		0.0039	mg/kg		0.0039	mg/kg	0.000000396 %		
15		anthracene		204-371-1	120-12-7		0.0014	mg/kg		0.0014	mg/kg	0.000000144 %		
16		fluoranthene		205-912-4	206-44-0		0.011	mg/kg		0.011	mg/kg	0.0000011 %		

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
17	•	pyrene				0.0109 mg/kg		0.0109 mg/kg	0.00000109 %		
			204-927-3	129-00-0							
18		benzo[a]anthracene				0.0061 mg/kg		0.0061 mg/kg	0.000000614 %		
		601-033-00-9	200-280-6	56-55-3							
19		chrysene				0.0067 mg/kg		0.0067 mg/kg	0.000000673 %		
		601-048-00-0	205-923-4	218-01-9							
20		benzo[b]fluoranthene				0.0067 mg/kg		0.0067 mg/kg	0.00000067 %		
		601-034-00-4	205-911-9	205-99-2							
21		benzo[k]fluoranthene				6.7e-06 mg/kg		6.7e-06 mg/kg	6.7e-10 %		
		601-036-00-5	205-916-6	207-08-9							
22		benzo[a]pyrene; benzo[def]chrysene				0.0069 mg/kg		0.0069 mg/kg	0.000000698 %		
		601-032-00-3	200-028-5	50-32-8							
23	•	indeno[123-cd]pyrene				0.0062 mg/kg		0.0062 mg/kg	0.000000629 %		
			205-893-2	193-39-5							
24		dibenz[a,h]anthracene				0.001 mg/kg		0.001 mg/kg	0.000000103 %		
		601-041-00-2	200-181-8	53-70-3							
25	•	benzo[ghi]perylene				0.0056 mg/kg		0.0056 mg/kg	0.000000561 %		
			205-883-8	191-24-2							
								Total:	0.0553 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00079%)

Classification of sample: VC02 @ 12:40 0.15-0.40

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC02 @ 12:40 0.15-0.40

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		5.3	mg/kg	1.32	6.998	mg/kg	0.0007 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.11	mg/kg	1.142	0.126	mg/kg	0.0000126 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				53.1	mg/kg	2.27	120.537	mg/kg	0.0121 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		11.9	mg/kg	1.126	13.398	mg/kg	0.00134 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	20.6	mg/kg	1.56	32.132	mg/kg	0.00206 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.08	mg/kg	1.353	0.108	mg/kg	0.0000108 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		53.8	mg/kg	2.976	160.123	mg/kg	0.016 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		77.6	mg/kg	2.774	215.274	mg/kg	0.0215 %		
9		TPH (C6 to C40) petroleum group			TPH		16.9	mg/kg		16.9	mg/kg	0.00169 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		0.003	mg/kg		0.003	mg/kg	0.000000306 %		
11		acenaphthylene		205-917-1	208-96-8		0.0014	mg/kg		0.0014	mg/kg	0.00000014 %		
12		acenaphthene		201-469-6	83-32-9		0.0039	mg/kg		0.0039	mg/kg	0.000000398 %		
13		fluorene		201-695-5	86-73-7		0.0036	mg/kg		0.0036	mg/kg	0.000000364 %		
14		phenanthrene		201-581-5	85-01-8		0.0265	mg/kg		0.0265	mg/kg	0.00000265 %		
15		anthracene		204-371-1	120-12-7		0.0079	mg/kg		0.0079	mg/kg	0.000000794 %		
16		fluoranthene		205-912-4	206-44-0		0.04	mg/kg		0.04	mg/kg	0.000004 %		

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
17	•	pyrene				0.0451 mg/kg		0.0451 mg/kg	0.00000451 %		
			204-927-3	129-00-0							
18		benzo[a]anthracene				0.0237 mg/kg		0.0237 mg/kg	0.00000237 %		
		601-033-00-9	200-280-6	56-55-3							
19		chrysene				0.0241 mg/kg		0.0241 mg/kg	0.00000241 %		
		601-048-00-0	205-923-4	218-01-9							
20		benzo[b]fluoranthene				0.0205 mg/kg		0.0205 mg/kg	0.00000205 %		
		601-034-00-4	205-911-9	205-99-2							
21		benzo[k]fluoranthene				2.05e-05 mg/kg		2.05e-05 mg/kg	0.000000002 %		
		601-036-00-5	205-916-6	207-08-9							
22		benzo[a]pyrene; benzo[def]chrysene				0.0261 mg/kg		0.0261 mg/kg	0.00000261 %		
		601-032-00-3	200-028-5	50-32-8							
23	•	indeno[123-cd]pyrene				0.0196 mg/kg		0.0196 mg/kg	0.00000196 %		
			205-893-2	193-39-5							
24		dibenz[a,h]anthracene				0.0039 mg/kg		0.0039 mg/kg	0.000000391 %		
		601-041-00-2	200-181-8	53-70-3							
25	•	benzo[ghi]perylene				0.0187 mg/kg		0.0187 mg/kg	0.00000187 %		
			205-883-8	191-24-2							
								Total:	0.0554 %		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00169%)

Classification of sample: VC02 @ 12:40 0.40-0.90

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC02 @ 12:40 0.40-0.90

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		20.6	mg/kg	1.32	27.199	mg/kg	0.00272 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.25	mg/kg	1.142	0.286	mg/kg	0.0000286 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				51.7	mg/kg	2.27	117.359	mg/kg	0.0117 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		14.9	mg/kg	1.126	16.776	mg/kg	0.00168 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	36.9	mg/kg	1.56	57.557	mg/kg	0.00369 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.15	mg/kg	1.353	0.203	mg/kg	0.0000203 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		53	mg/kg	2.976	157.742	mg/kg	0.0158 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		101	mg/kg	2.774	280.189	mg/kg	0.028 %		
9		TPH (C6 to C40) petroleum group			TPH		35.4	mg/kg		35.4	mg/kg	0.00354 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		0.0241	mg/kg		0.0241	mg/kg	0.00000241 %		
11		acenaphthylene		205-917-1	208-96-8		0.0033	mg/kg		0.0033	mg/kg	0.000000339 %		
12		acenaphthene		201-469-6	83-32-9		0.0515	mg/kg		0.0515	mg/kg	0.00000515 %		
13		fluorene		201-695-5	86-73-7		0.041	mg/kg		0.041	mg/kg	0.0000041 %		
14		phenanthrene		201-581-5	85-01-8		0.256	mg/kg		0.256	mg/kg	0.0000256 %		
15		anthracene		204-371-1	120-12-7		0.0828	mg/kg		0.0828	mg/kg	0.00000828 %		
16		fluoranthene		205-912-4	206-44-0		0.253	mg/kg		0.253	mg/kg	0.0000253 %		

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
17	•	pyrene				0.262 mg/kg		0.262 mg/kg	0.0000262 %		
			204-927-3	129-00-0							
18		benzo[a]anthracene				0.115 mg/kg		0.115 mg/kg	0.0000115 %		
		601-033-00-9	200-280-6	56-55-3							
19		chrysene				0.133 mg/kg		0.133 mg/kg	0.0000133 %		
		601-048-00-0	205-923-4	218-01-9							
20		benzo[b]fluoranthene				0.0985 mg/kg		0.0985 mg/kg	0.00000985 %		
		601-034-00-4	205-911-9	205-99-2							
21		benzo[k]fluoranthene				9.85e-05 mg/kg		9.85e-05 mg/kg	0.000000009 %		
		601-036-00-5	205-916-6	207-08-9							
22		benzo[a]pyrene; benzo[def]chrysene				0.118 mg/kg		0.118 mg/kg	0.0000118 %		
		601-032-00-3	200-028-5	50-32-8							
23	•	indeno[123-cd]pyrene				0.0905 mg/kg		0.0905 mg/kg	0.00000905 %		
			205-893-2	193-39-5							
24		dibenz[a,h]anthracene				0.0212 mg/kg		0.0212 mg/kg	0.00000212 %		
		601-041-00-2	200-181-8	53-70-3							
25	•	benzo[ghi]perylene				0.0805 mg/kg		0.0805 mg/kg	0.00000805 %		
			205-883-8	191-24-2							
								Total:	0.0674 %		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00354%)

Classification of sample: VC03 @ 14:10 0.00-0.15

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC03 @ 14:10 0.00-0.15

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		31.3	mg/kg	1.32	41.326	mg/kg	0.00413 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.08	mg/kg	1.142	0.0914	mg/kg	0.00000914 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				53.8	mg/kg	2.27	122.126	mg/kg	0.0122 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		10.6	mg/kg	1.126	11.934	mg/kg	0.00119 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	19.2	mg/kg	1.56	29.948	mg/kg	0.00192 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.08	mg/kg	1.353	0.108	mg/kg	0.0000108 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		55.3	mg/kg	2.976	164.587	mg/kg	0.0165 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		77.7	mg/kg	2.774	215.551	mg/kg	0.0216 %		
9		TPH (C6 to C40) petroleum group			TPH		9.05	mg/kg		9.05	mg/kg	0.000905 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
11		acenaphthylene		205-917-1	208-96-8		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
12		acenaphthene		201-469-6	83-32-9		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
13		fluorene		201-695-5	86-73-7		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
14		phenanthrene		201-581-5	85-01-8		0.0051	mg/kg		0.0051	mg/kg	0.000000512 %		
15		anthracene		204-371-1	120-12-7		0.0019	mg/kg		0.0019	mg/kg	0.000000193 %		
16		fluoranthene		205-912-4	206-44-0		0.0109	mg/kg		0.0109	mg/kg	0.00000109 %		

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
17	•	pyrene				0.0108 mg/kg		0.0108 mg/kg	0.00000108 %		
			204-927-3	129-00-0							
18		benzo[a]anthracene				0.0067 mg/kg		0.0067 mg/kg	0.000000677 %		
		601-033-00-9	200-280-6	56-55-3							
19		chrysene				0.0072 mg/kg		0.0072 mg/kg	0.000000723 %		
		601-048-00-0	205-923-4	218-01-9							
20		benzo[b]fluoranthene				0.0076 mg/kg		0.0076 mg/kg	0.000000763 %		
		601-034-00-4	205-911-9	205-99-2							
21		benzo[k]fluoranthene				7.63e-06 mg/kg		7.63e-06 mg/kg	7.63e-10 %		
		601-036-00-5	205-916-6	207-08-9							
22		benzo[a]pyrene; benzo[def]chrysene				0.0083 mg/kg		0.0083 mg/kg	0.000000831 %		
		601-032-00-3	200-028-5	50-32-8							
23	•	indeno[123-cd]pyrene				0.0075 mg/kg		0.0075 mg/kg	0.000000758 %		
			205-893-2	193-39-5							
24		dibenz[a,h]anthracene				0.0012 mg/kg		0.0012 mg/kg	0.000000127 %		
		601-041-00-2	200-181-8	53-70-3							
25	•	benzo[ghi]perylene				0.0068 mg/kg		0.0068 mg/kg	0.000000681 %		
			205-883-8	191-24-2							
								Total:	0.0588 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0009%)

Classification of sample: VC03 @ 14:10 0.15-0.50

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC03 @ 14:10 0.15-0.50

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		19.7	mg/kg	1.32	26.01	mg/kg	0.0026 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.14	mg/kg	1.142	0.16	mg/kg	0.000016 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				49.7	mg/kg	2.27	112.819	mg/kg	0.0113 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		10.2	mg/kg	1.126	11.484	mg/kg	0.00115 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	19	mg/kg	1.56	29.636	mg/kg	0.0019 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.08	mg/kg	1.353	0.108	mg/kg	0.0000108 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		52.6	mg/kg	2.976	156.552	mg/kg	0.0157 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		69.4	mg/kg	2.774	192.526	mg/kg	0.0193 %		
9		TPH (C6 to C40) petroleum group			TPH		12.2	mg/kg		12.2	mg/kg	0.00122 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		0.0018	mg/kg		0.0018	mg/kg	0.000000189 %		
11		acenaphthylene		205-917-1	208-96-8		0.0011	mg/kg		0.0011	mg/kg	0.000000115 %		
12		acenaphthene		201-469-6	83-32-9		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
13		fluorene		201-695-5	86-73-7		0.0012	mg/kg		0.0012	mg/kg	0.000000126 %		
14		phenanthrene		201-581-5	85-01-8		0.0087	mg/kg		0.0087	mg/kg	0.000000879 %		
15		anthracene		204-371-1	120-12-7		0.0033	mg/kg		0.0033	mg/kg	0.000000336 %		
16		fluoranthene		205-912-4	206-44-0		0.0203	mg/kg		0.0203	mg/kg	0.00000203 %		

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
17	•	pyrene				0.0246 mg/kg		0.0246 mg/kg	0.00000246 %		
			204-927-3	129-00-0							
18		benzo[a]anthracene				0.016 mg/kg		0.016 mg/kg	0.0000016 %		
		601-033-00-9	200-280-6	56-55-3							
19		chrysene				0.0174 mg/kg		0.0174 mg/kg	0.00000174 %		
		601-048-00-0	205-923-4	218-01-9							
20		benzo[b]fluoranthene				0.0197 mg/kg		0.0197 mg/kg	0.00000197 %		
		601-034-00-4	205-911-9	205-99-2							
21		benzo[k]fluoranthene				1.97e-05 mg/kg		1.97e-05 mg/kg	0.000000001 %		
		601-036-00-5	205-916-6	207-08-9							
22		benzo[a]pyrene; benzo[def]chrysene				0.0186 mg/kg		0.0186 mg/kg	0.00000186 %		
		601-032-00-3	200-028-5	50-32-8							
23	•	indeno[123-cd]pyrene				0.0171 mg/kg		0.0171 mg/kg	0.00000171 %		
			205-893-2	193-39-5							
24		dibenz[a,h]anthracene				0.0034 mg/kg		0.0034 mg/kg	0.000000348 %		
		601-041-00-2	200-181-8	53-70-3							
25	•	benzo[ghi]perylene				0.0148 mg/kg		0.0148 mg/kg	0.00000148 %		
			205-883-8	191-24-2							
								Total:	0.0532 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00122%)

Classification of sample: VC03 @ 14:10 0.50-1.00

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC03 @ 14:10 0.50-1.00

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		24.5	mg/kg	1.32	32.348	mg/kg	0.00323 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.22	mg/kg	1.142	0.251	mg/kg	0.0000251 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				53.4	mg/kg	2.27	121.218	mg/kg	0.0121 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		12.3	mg/kg	1.126	13.848	mg/kg	0.00138 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	29	mg/kg	1.56	45.235	mg/kg	0.0029 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.17	mg/kg	1.353	0.23	mg/kg	0.000023 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		55.1	mg/kg	2.976	163.992	mg/kg	0.0164 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		99.9	mg/kg	2.774	277.137	mg/kg	0.0277 %		
9		TPH (C6 to C40) petroleum group			TPH		72.7	mg/kg		72.7	mg/kg	0.00727 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		0.0224	mg/kg		0.0224	mg/kg	0.00000224 %		
11		acenaphthylene		205-917-1	208-96-8		0.0169	mg/kg		0.0169	mg/kg	0.00000169 %		
12		acenaphthene		201-469-6	83-32-9		0.0262	mg/kg		0.0262	mg/kg	0.00000262 %		
13		fluorene		201-695-5	86-73-7		0.0348	mg/kg		0.0348	mg/kg	0.00000348 %		
14		phenanthrene		201-581-5	85-01-8		0.258	mg/kg		0.258	mg/kg	0.0000258 %		
15		anthracene		204-371-1	120-12-7		0.0789	mg/kg		0.0789	mg/kg	0.00000789 %		
16		fluoranthene		205-912-4	206-44-0		0.402	mg/kg		0.402	mg/kg	0.0000402 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
17		pyrene				0.436	mg/kg		0.436	mg/kg	0.0000436 %		
			204-927-3	129-00-0									
18		benzo[a]anthracene				0.257	mg/kg		0.257	mg/kg	0.0000257 %		
		601-033-00-9	200-280-6	56-55-3									
19		chrysene				0.256	mg/kg		0.256	mg/kg	0.0000256 %		
		601-048-00-0	205-923-4	218-01-9									
20		benzo[b]fluoranthene				0.233	mg/kg		0.233	mg/kg	0.0000233 %		
		601-034-00-4	205-911-9	205-99-2									
21		benzo[k]fluoranthene				0.0002	mg/kg		0.0002	mg/kg	0.000000023 %		
		601-036-00-5	205-916-6	207-08-9									
22		benzo[a]pyrene; benzo[def]chrysene				0.252	mg/kg		0.252	mg/kg	0.0000252 %		
		601-032-00-3	200-028-5	50-32-8									
23		indeno[123-cd]pyrene				0.201	mg/kg		0.201	mg/kg	0.0000201 %		
			205-893-2	193-39-5									
24		dibenz[a,h]anthracene				0.0434	mg/kg		0.0434	mg/kg	0.00000434 %		
		601-041-00-2	200-181-8	53-70-3									
25		benzo[ghi]perylene				0.199	mg/kg		0.199	mg/kg	0.0000199 %		
			205-883-8	191-24-2									
										Total:	0.0713 %		

Key

	User supplied data
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00727%)

Classification of sample: VC04 @ 14:40 0.00-0.15

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC04 @ 14:40 0.00-0.15

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		16.2	mg/kg	1.32	21.389	mg/kg	0.00214 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.06	mg/kg	1.142	0.0685	mg/kg	0.00000685 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				51.6	mg/kg	2.27	117.132	mg/kg	0.0117 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		10	mg/kg	1.126	11.259	mg/kg	0.00113 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	17.1	mg/kg	1.56	26.673	mg/kg	0.00171 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.07	mg/kg	1.353	0.0947	mg/kg	0.00000947 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		55	mg/kg	2.976	163.695	mg/kg	0.0164 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		75.5	mg/kg	2.774	209.448	mg/kg	0.0209 %		
9		TPH (C6 to C40) petroleum group			TPH		11	mg/kg		11	mg/kg	0.0011 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		0.0026	mg/kg		0.0026	mg/kg	0.000000263 %		
11		acenaphthylene		205-917-1	208-96-8		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
12		acenaphthene		201-469-6	83-32-9		0.0011	mg/kg		0.0011	mg/kg	0.00000011 %		
13		fluorene		201-695-5	86-73-7		0.0014	mg/kg		0.0014	mg/kg	0.000000147 %		
14		phenanthrene		201-581-5	85-01-8		0.015	mg/kg		0.015	mg/kg	0.0000015 %		
15		anthracene		204-371-1	120-12-7		0.0046	mg/kg		0.0046	mg/kg	0.000000461 %		
16		fluoranthene		205-912-4	206-44-0		0.0298	mg/kg		0.0298	mg/kg	0.00000298 %		

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
17	•	pyrene				0.0272 mg/kg		0.0272 mg/kg	0.00000272 %		
			204-927-3	129-00-0							
18		benzo[a]anthracene				0.0167 mg/kg		0.0167 mg/kg	0.00000167 %		
		601-033-00-9	200-280-6	56-55-3							
19		chrysene				0.0168 mg/kg		0.0168 mg/kg	0.00000168 %		
		601-048-00-0	205-923-4	218-01-9							
20		benzo[b]fluoranthene				0.016 mg/kg		0.016 mg/kg	0.0000016 %		
		601-034-00-4	205-911-9	205-99-2							
21		benzo[k]fluoranthene				1.6e-05 mg/kg		1.6e-05 mg/kg	0.000000001 %		
		601-036-00-5	205-916-6	207-08-9							
22		benzo[a]pyrene; benzo[def]chrysene				0.0162 mg/kg		0.0162 mg/kg	0.00000162 %		
		601-032-00-3	200-028-5	50-32-8							
23	•	indeno[123-cd]pyrene				0.0133 mg/kg		0.0133 mg/kg	0.00000133 %		
			205-893-2	193-39-5							
24		dibenz[a,h]anthracene				0.0028 mg/kg		0.0028 mg/kg	0.00000028 %		
		601-041-00-2	200-181-8	53-70-3							
25	•	benzo[ghi]perylene				0.0112 mg/kg		0.0112 mg/kg	0.00000112 %		
			205-883-8	191-24-2							
								Total:	0.0552 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0011%)

Classification of sample: VC04 @ 14:40 0.20-0.70

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC04 @ 14:40 0.20-0.70

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8.4	mg/kg	1.32	11.091	mg/kg	0.00111 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.19	mg/kg	1.142	0.217	mg/kg	0.0000217 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				52.9	mg/kg	2.27	120.083	mg/kg	0.012 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		14.2	mg/kg	1.126	15.988	mg/kg	0.0016 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	33.1	mg/kg	1.56	51.63	mg/kg	0.00331 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.18	mg/kg	1.353	0.244	mg/kg	0.0000244 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		54.4	mg/kg	2.976	161.909	mg/kg	0.0162 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		96.6	mg/kg	2.774	267.983	mg/kg	0.0268 %		
9		TPH (C6 to C40) petroleum group			TPH		52.5	mg/kg		52.5	mg/kg	0.00525 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		0.0253	mg/kg		0.0253	mg/kg	0.00000253 %		
11		acenaphthylene		205-917-1	208-96-8		0.0241	mg/kg		0.0241	mg/kg	0.00000241 %		
12		acenaphthene		201-469-6	83-32-9		0.0222	mg/kg		0.0222	mg/kg	0.00000222 %		
13		fluorene		201-695-5	86-73-7		0.0441	mg/kg		0.0441	mg/kg	0.00000441 %		
14		phenanthrene		201-581-5	85-01-8		0.263	mg/kg		0.263	mg/kg	0.0000263 %		
15		anthracene		204-371-1	120-12-7		0.0933	mg/kg		0.0933	mg/kg	0.00000933 %		
16		fluoranthene		205-912-4	206-44-0		0.348	mg/kg		0.348	mg/kg	0.0000348 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
17		pyrene				0.407	mg/kg		0.407	mg/kg	0.0000407 %		
			204-927-3	129-00-0									
18		benzo[a]anthracene				0.211	mg/kg		0.211	mg/kg	0.0000211 %		
		601-033-00-9	200-280-6	56-55-3									
19		chrysene				0.207	mg/kg		0.207	mg/kg	0.0000207 %		
		601-048-00-0	205-923-4	218-01-9									
20		benzo[b]fluoranthene				0.154	mg/kg		0.154	mg/kg	0.0000154 %		
		601-034-00-4	205-911-9	205-99-2									
21		benzo[k]fluoranthene				0.0001	mg/kg		0.0001	mg/kg	0.000000015 %		
		601-036-00-5	205-916-6	207-08-9									
22		benzo[a]pyrene; benzo[def]chrysene				0.198	mg/kg		0.198	mg/kg	0.0000198 %		
		601-032-00-3	200-028-5	50-32-8									
23		indeno[123-cd]pyrene				0.136	mg/kg		0.136	mg/kg	0.0000136 %		
			205-893-2	193-39-5									
24		dibenz[a,h]anthracene				0.0334	mg/kg		0.0334	mg/kg	0.00000334 %		
		601-041-00-2	200-181-8	53-70-3									
25		benzo[ghi]perylene				0.124	mg/kg		0.124	mg/kg	0.0000124 %		
			205-883-8	191-24-2									
										Total:	0.0665 %		

Key

	User supplied data
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00525%)

Classification of sample: VC04 @ 14:40 0.70-1.20

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC04 @ 14:40 0.70-1.20

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8.2	mg/kg	1.32	10.827	mg/kg	0.00108 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.23	mg/kg	1.142	0.263	mg/kg	0.0000263 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				51	mg/kg	2.27	115.77	mg/kg	0.0116 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		13.9	mg/kg	1.126	15.65	mg/kg	0.00156 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	37.3	mg/kg	1.56	58.181	mg/kg	0.00373 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.18	mg/kg	1.353	0.244	mg/kg	0.0000244 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		52	mg/kg	2.976	154.766	mg/kg	0.0155 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		97.4	mg/kg	2.774	270.202	mg/kg	0.027 %		
9		TPH (C6 to C40) petroleum group			TPH		35.8	mg/kg		35.8	mg/kg	0.00358 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		0.0136	mg/kg		0.0136	mg/kg	0.00000136 %		
11		acenaphthylene		205-917-1	208-96-8		0.0035	mg/kg		0.0035	mg/kg	0.000000358 %		
12		acenaphthene		201-469-6	83-32-9		0.0246	mg/kg		0.0246	mg/kg	0.00000246 %		
13		fluorene		201-695-5	86-73-7		0.0254	mg/kg		0.0254	mg/kg	0.00000254 %		
14		phenanthrene		201-581-5	85-01-8		0.136	mg/kg		0.136	mg/kg	0.0000136 %		
15		anthracene		204-371-1	120-12-7		0.0432	mg/kg		0.0432	mg/kg	0.00000432 %		
16		fluoranthene		205-912-4	206-44-0		0.176	mg/kg		0.176	mg/kg	0.0000176 %		

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
17	•	pyrene				0.191 mg/kg		0.191 mg/kg	0.0000191 %		
			204-927-3	129-00-0							
18		benzo[a]anthracene				0.097 mg/kg		0.097 mg/kg	0.0000097 %		
		601-033-00-9	200-280-6	56-55-3							
19		chrysene				0.0975 mg/kg		0.0975 mg/kg	0.00000975 %		
		601-048-00-0	205-923-4	218-01-9							
20		benzo[b]fluoranthene				0.0858 mg/kg		0.0858 mg/kg	0.00000858 %		
		601-034-00-4	205-911-9	205-99-2							
21		benzo[k]fluoranthene				8.58e-05 mg/kg		8.58e-05 mg/kg	0.000000008 %		
		601-036-00-5	205-916-6	207-08-9							
22		benzo[a]pyrene; benzo[def]chrysene				0.0957 mg/kg		0.0957 mg/kg	0.00000957 %		
		601-032-00-3	200-028-5	50-32-8							
23	•	indeno[123-cd]pyrene				0.0722 mg/kg		0.0722 mg/kg	0.00000722 %		
			205-893-2	193-39-5							
24		dibenz[a,h]anthracene				0.02 mg/kg		0.02 mg/kg	0.000002 %		
		601-041-00-2	200-181-8	53-70-3							
25	•	benzo[ghi]perylene				0.0675 mg/kg		0.0675 mg/kg	0.00000675 %		
			205-883-8	191-24-2							
								Total:	0.0642 %		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00358%)

Classification of sample: VC05 @ 16:15 0.00-0.15

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC05 @ 16:15 0.00-0.15

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		6	mg/kg	1.32	7.922	mg/kg	0.000792 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.12	mg/kg	1.142	0.137	mg/kg	0.0000137 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				41.9	mg/kg	2.27	95.113	mg/kg	0.00951 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		9.6	mg/kg	1.126	10.809	mg/kg	0.00108 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	14.8	mg/kg	1.56	23.085	mg/kg	0.00148 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.05	mg/kg	1.353	0.0677	mg/kg	0.00000677 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		44.6	mg/kg	2.976	132.741	mg/kg	0.0133 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		63.5	mg/kg	2.774	176.158	mg/kg	0.0176 %		
9		TPH (C6 to C40) petroleum group			TPH		11.5	mg/kg		11.5	mg/kg	0.00115 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
11		acenaphthylene		205-917-1	208-96-8		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
12		acenaphthene		201-469-6	83-32-9		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
13		fluorene		201-695-5	86-73-7		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
14		phenanthrene		201-581-5	85-01-8		0.0055	mg/kg		0.0055	mg/kg	0.000000559 %		
15		anthracene		204-371-1	120-12-7		0.0018	mg/kg		0.0018	mg/kg	0.000000182 %		
16		fluoranthene		205-912-4	206-44-0		0.012	mg/kg		0.012	mg/kg	0.0000012 %		

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
17	•	pyrene				0.0121 mg/kg		0.0121 mg/kg	0.00000121 %		
			204-927-3	129-00-0							
18		benzo[a]anthracene				0.0064 mg/kg		0.0064 mg/kg	0.000000646 %		
		601-033-00-9	200-280-6	56-55-3							
19		chrysene				0.0071 mg/kg		0.0071 mg/kg	0.000000718 %		
		601-048-00-0	205-923-4	218-01-9							
20		benzo[b]fluoranthene				0.0074 mg/kg		0.0074 mg/kg	0.000000744 %		
		601-034-00-4	205-911-9	205-99-2							
21		benzo[k]fluoranthene				7.44e-06 mg/kg		7.44e-06 mg/kg	7.44e-10 %		
		601-036-00-5	205-916-6	207-08-9							
22		benzo[a]pyrene; benzo[def]chrysene				0.0074 mg/kg		0.0074 mg/kg	0.000000746 %		
		601-032-00-3	200-028-5	50-32-8							
23	•	indeno[123-cd]pyrene				0.007 mg/kg		0.007 mg/kg	0.000000705 %		
			205-893-2	193-39-5							
24		dibenz[a,h]anthracene				0.0013 mg/kg		0.0013 mg/kg	0.000000137 %		
		601-041-00-2	200-181-8	53-70-3							
25	•	benzo[ghi]perylene				0.0065 mg/kg		0.0065 mg/kg	0.00000065 %		
			205-883-8	191-24-2							
								Total:	0.0453 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00115%)

Classification of sample: VC05 @ 16:15 0.25-0.75

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC05 @ 16:15 0.25-0.75

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		31.2	mg/kg	1.32	41.194	mg/kg	0.00412 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.08	mg/kg	1.142	0.0914	mg/kg	0.00000914 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				36.1	mg/kg	2.27	81.947	mg/kg	0.00819 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		9.4	mg/kg	1.126	10.583	mg/kg	0.00106 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	14.3	mg/kg	1.56	22.305	mg/kg	0.00143 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.04	mg/kg	1.353	0.0541	mg/kg	0.00000541 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		38.3	mg/kg	2.976	113.991	mg/kg	0.0114 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		57.9	mg/kg	2.774	160.623	mg/kg	0.0161 %		
9		TPH (C6 to C40) petroleum group			TPH		13.5	mg/kg		13.5	mg/kg	0.00135 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		0.0036	mg/kg		0.0036	mg/kg	0.000000363 %		
11		acenaphthylene		205-917-1	208-96-8		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
12		acenaphthene		201-469-6	83-32-9		0.0027	mg/kg		0.0027	mg/kg	0.000000275 %		
13		fluorene		201-695-5	86-73-7		0.0034	mg/kg		0.0034	mg/kg	0.000000347 %		
14		phenanthrene		201-581-5	85-01-8		0.0212	mg/kg		0.0212	mg/kg	0.00000212 %		
15		anthracene		204-371-1	120-12-7		0.0063	mg/kg		0.0063	mg/kg	0.00000063 %		
16		fluoranthene		205-912-4	206-44-0		0.0291	mg/kg		0.0291	mg/kg	0.00000291 %		

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
17	•	pyrene				0.0331 mg/kg		0.0331 mg/kg	0.00000331 %		
			204-927-3	129-00-0							
18		benzo[a]anthracene				0.0175 mg/kg		0.0175 mg/kg	0.00000175 %		
		601-033-00-9	200-280-6	56-55-3							
19		chrysene				0.0184 mg/kg		0.0184 mg/kg	0.00000184 %		
		601-048-00-0	205-923-4	218-01-9							
20		benzo[b]fluoranthene				0.0166 mg/kg		0.0166 mg/kg	0.00000166 %		
		601-034-00-4	205-911-9	205-99-2							
21		benzo[k]fluoranthene				1.66e-05 mg/kg		1.66e-05 mg/kg	0.000000001 %		
		601-036-00-5	205-916-6	207-08-9							
22		benzo[a]pyrene; benzo[def]chrysene				0.0183 mg/kg		0.0183 mg/kg	0.00000183 %		
		601-032-00-3	200-028-5	50-32-8							
23	•	indeno[123-cd]pyrene				0.0149 mg/kg		0.0149 mg/kg	0.00000149 %		
			205-893-2	193-39-5							
24		dibenz[a,h]anthracene				0.003 mg/kg		0.003 mg/kg	0.0000003 %		
		601-041-00-2	200-181-8	53-70-3							
25	•	benzo[ghi]perylene				0.0139 mg/kg		0.0139 mg/kg	0.00000139 %		
			205-883-8	191-24-2							
								Total:	0.0437 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00135%)

Classification of sample: VC05 @ 16:15 0.75-1.25

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC05 @ 16:15 0.75-1.25

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		5	mg/kg	1.32	6.602	mg/kg	0.00066 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.1	mg/kg	1.142	0.114	mg/kg	0.0000114 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				38.1	mg/kg	2.27	86.487	mg/kg	0.00865 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		9.7	mg/kg	1.126	10.921	mg/kg	0.00109 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	13.9	mg/kg	1.56	21.681	mg/kg	0.00139 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.04	mg/kg	1.353	0.0541	mg/kg	0.00000541 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		41.3	mg/kg	2.976	122.92	mg/kg	0.0123 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		72.3	mg/kg	2.774	200.571	mg/kg	0.0201 %		
9		TPH (C6 to C40) petroleum group			TPH		15	mg/kg		15	mg/kg	0.0015 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		0.0045	mg/kg		0.0045	mg/kg	0.000000459 %		
11		acenaphthylene		205-917-1	208-96-8		0.0027	mg/kg		0.0027	mg/kg	0.000000276 %		
12		acenaphthene		201-469-6	83-32-9		0.0018	mg/kg		0.0018	mg/kg	0.000000184 %		
13		fluorene		201-695-5	86-73-7		0.0039	mg/kg		0.0039	mg/kg	0.000000399 %		
14		phenanthrene		201-581-5	85-01-8		0.0398	mg/kg		0.0398	mg/kg	0.00000398 %		
15		anthracene		204-371-1	120-12-7		0.0103	mg/kg		0.0103	mg/kg	0.00000103 %		
16		fluoranthene		205-912-4	206-44-0		0.0666	mg/kg		0.0666	mg/kg	0.00000666 %		

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
17	•	pyrene				0.0661 mg/kg		0.0661 mg/kg	0.00000661 %		
			204-927-3	129-00-0							
18		benzo[a]anthracene				0.0366 mg/kg		0.0366 mg/kg	0.00000366 %		
		601-033-00-9	200-280-6	56-55-3							
19		chrysene				0.038 mg/kg		0.038 mg/kg	0.0000038 %		
		601-048-00-0	205-923-4	218-01-9							
20		benzo[b]fluoranthene				0.0306 mg/kg		0.0306 mg/kg	0.00000306 %		
		601-034-00-4	205-911-9	205-99-2							
21		benzo[k]fluoranthene				3.06e-05 mg/kg		3.06e-05 mg/kg	0.000000003 %		
		601-036-00-5	205-916-6	207-08-9							
22		benzo[a]pyrene; benzo[def]chrysene				0.0339 mg/kg		0.0339 mg/kg	0.00000339 %		
		601-032-00-3	200-028-5	50-32-8							
23	•	indeno[123-cd]pyrene				0.0249 mg/kg		0.0249 mg/kg	0.00000249 %		
			205-893-2	193-39-5							
24		dibenz[a,h]anthracene				0.0053 mg/kg		0.0053 mg/kg	0.000000538 %		
		601-041-00-2	200-181-8	53-70-3							
25	•	benzo[ghi]perylene				0.023 mg/kg		0.023 mg/kg	0.0000023 %		
			205-883-8	191-24-2							
								Total:	0.0457 %		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0015%)

Classification of sample: VC06 @ 16:50 0.00-0.15

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC06 @ 16:50 0.00-0.15

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		32	mg/kg	1.32	42.25	mg/kg	0.00423 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.1	mg/kg	1.142	0.114	mg/kg	0.0000114 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				45.4	mg/kg	2.27	103.058	mg/kg	0.0103 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		9.9	mg/kg	1.126	11.146	mg/kg	0.00111 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	13.8	mg/kg	1.56	21.525	mg/kg	0.00138 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.03	mg/kg	1.353	0.0406	mg/kg	0.00000406 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		47.8	mg/kg	2.976	142.265	mg/kg	0.0142 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		66.3	mg/kg	2.774	183.926	mg/kg	0.0184 %		
9		TPH (C6 to C40) petroleum group			TPH		8.33	mg/kg		8.33	mg/kg	0.000833 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		0.0011	mg/kg		0.0011	mg/kg	0.000000112 %		
11		acenaphthylene		205-917-1	208-96-8		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
12		acenaphthene		201-469-6	83-32-9		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
13		fluorene		201-695-5	86-73-7		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
14		phenanthrene		201-581-5	85-01-8		0.0051	mg/kg		0.0051	mg/kg	0.000000517 %		
15		anthracene		204-371-1	120-12-7		0.002	mg/kg		0.002	mg/kg	0.000000203 %		
16		fluoranthene		205-912-4	206-44-0		0.0091	mg/kg		0.0091	mg/kg	0.000000913 %		

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
17	•	pyrene				0.0108 mg/kg		0.0108 mg/kg	0.00000108 %		
			204-927-3	129-00-0							
18		benzo[a]anthracene				0.0053 mg/kg		0.0053 mg/kg	0.000000534 %		
		601-033-00-9	200-280-6	56-55-3							
19		chrysene				0.0061 mg/kg		0.0061 mg/kg	0.000000618 %		
		601-048-00-0	205-923-4	218-01-9							
20		benzo[b]fluoranthene				0.0057 mg/kg		0.0057 mg/kg	0.000000577 %		
		601-034-00-4	205-911-9	205-99-2							
21		benzo[k]fluoranthene				5.77e-06 mg/kg		5.77e-06 mg/kg	5.77e-10 %		
		601-036-00-5	205-916-6	207-08-9							
22		benzo[a]pyrene; benzo[def]chrysene				0.0068 mg/kg		0.0068 mg/kg	0.000000683 %		
		601-032-00-3	200-028-5	50-32-8							
23	•	indeno[123-cd]pyrene				0.0064 mg/kg		0.0064 mg/kg	0.000000641 %		
			205-893-2	193-39-5							
24		dibenz[a,h]anthracene				0.0012 mg/kg		0.0012 mg/kg	0.000000123 %		
		601-041-00-2	200-181-8	53-70-3							
25	•	benzo[ghi]perylene				0.0066 mg/kg		0.0066 mg/kg	0.000000662 %		
			205-883-8	191-24-2							
								Total:	0.0508 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00083%)

Classification of sample: VC06 @ 16:50 0.15-0.50

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC06 @ 16:50 0.15-0.50

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		6	mg/kg	1.32	7.922	mg/kg	0.000792 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.12	mg/kg	1.142	0.137	mg/kg	0.0000137 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				45.9	mg/kg	2.27	104.193	mg/kg	0.0104 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		9.8	mg/kg	1.126	11.034	mg/kg	0.0011 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	16.4	mg/kg	1.56	25.581	mg/kg	0.00164 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.07	mg/kg	1.353	0.0947	mg/kg	0.00000947 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		47.8	mg/kg	2.976	142.265	mg/kg	0.0142 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		68.7	mg/kg	2.774	190.584	mg/kg	0.0191 %		
9		TPH (C6 to C40) petroleum group			TPH		19	mg/kg		19	mg/kg	0.0019 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		0.0047	mg/kg		0.0047	mg/kg	0.000000476 %		
11		acenaphthylene		205-917-1	208-96-8		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
12		acenaphthene		201-469-6	83-32-9		0.0012	mg/kg		0.0012	mg/kg	0.000000125 %		
13		fluorene		201-695-5	86-73-7		0.0019	mg/kg		0.0019	mg/kg	0.000000199 %		
14		phenanthrene		201-581-5	85-01-8		0.0158	mg/kg		0.0158	mg/kg	0.00000158 %		
15		anthracene		204-371-1	120-12-7		0.0056	mg/kg		0.0056	mg/kg	0.000000561 %		
16		fluoranthene		205-912-4	206-44-0		0.0209	mg/kg		0.0209	mg/kg	0.00000209 %		

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
17	•	pyrene				0.0265 mg/kg		0.0265 mg/kg	0.00000265 %		
			204-927-3	129-00-0							
18		benzo[a]anthracene				0.0113 mg/kg		0.0113 mg/kg	0.00000113 %		
		601-033-00-9	200-280-6	56-55-3							
19		chrysene				0.0133 mg/kg		0.0133 mg/kg	0.00000133 %		
		601-048-00-0	205-923-4	218-01-9							
20		benzo[b]fluoranthene				0.0173 mg/kg		0.0173 mg/kg	0.00000173 %		
		601-034-00-4	205-911-9	205-99-2							
21		benzo[k]fluoranthene				1.73e-05 mg/kg		1.73e-05 mg/kg	0.000000001 %		
		601-036-00-5	205-916-6	207-08-9							
22		benzo[a]pyrene; benzo[def]chrysene				0.0188 mg/kg		0.0188 mg/kg	0.00000188 %		
		601-032-00-3	200-028-5	50-32-8							
23	•	indeno[123-cd]pyrene				0.016 mg/kg		0.016 mg/kg	0.0000016 %		
			205-893-2	193-39-5							
24		dibenz[a,h]anthracene				0.0026 mg/kg		0.0026 mg/kg	0.000000265 %		
		601-041-00-2	200-181-8	53-70-3							
25	•	benzo[ghi]perylene				0.0178 mg/kg		0.0178 mg/kg	0.00000178 %		
			205-883-8	191-24-2							
								Total:	0.0493 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0019%)

Classification of sample: VC06 @ 16:50 0.50-1.00

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC06 @ 16:50 0.50-1.00

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		15	mg/kg	1.32	19.805	mg/kg	0.00198 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.19	mg/kg	1.142	0.217	mg/kg	0.0000217 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				46.6	mg/kg	2.27	105.782	mg/kg	0.0106 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		12.3	mg/kg	1.126	13.848	mg/kg	0.00138 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	28.6	mg/kg	1.56	44.611	mg/kg	0.00286 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.11	mg/kg	1.353	0.149	mg/kg	0.0000149 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		46.6	mg/kg	2.976	138.694	mg/kg	0.0139 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		85.9	mg/kg	2.774	238.299	mg/kg	0.0238 %		
9		TPH (C6 to C40) petroleum group			TPH		20.4	mg/kg		20.4	mg/kg	0.00204 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		0.0056	mg/kg		0.0056	mg/kg	0.000000568 %		
11		acenaphthylene		205-917-1	208-96-8		0.001	mg/kg		0.001	mg/kg	0.000000102 %		
12		acenaphthene		201-469-6	83-32-9		0.0018	mg/kg		0.0018	mg/kg	0.000000186 %		
13		fluorene		201-695-5	86-73-7		0.0024	mg/kg		0.0024	mg/kg	0.000000248 %		
14		phenanthrene		201-581-5	85-01-8		0.0311	mg/kg		0.0311	mg/kg	0.00000311 %		
15		anthracene		204-371-1	120-12-7		0.007	mg/kg		0.007	mg/kg	0.000000705 %		
16		fluoranthene		205-912-4	206-44-0		0.0551	mg/kg		0.0551	mg/kg	0.00000551 %		

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
17	•	pyrene				0.0637 mg/kg		0.0637 mg/kg	0.00000637 %		
			204-927-3	129-00-0							
18		benzo[a]anthracene				0.0218 mg/kg		0.0218 mg/kg	0.00000218 %		
		601-033-00-9	200-280-6	56-55-3							
19		chrysene				0.0286 mg/kg		0.0286 mg/kg	0.00000286 %		
		601-048-00-0	205-923-4	218-01-9							
20		benzo[b]fluoranthene				0.0252 mg/kg		0.0252 mg/kg	0.00000252 %		
		601-034-00-4	205-911-9	205-99-2							
21		benzo[k]fluoranthene				2.52e-05 mg/kg		2.52e-05 mg/kg	0.000000002 %		
		601-036-00-5	205-916-6	207-08-9							
22		benzo[a]pyrene; benzo[def]chrysene				0.0249 mg/kg		0.0249 mg/kg	0.00000249 %		
		601-032-00-3	200-028-5	50-32-8							
23	•	indeno[123-cd]pyrene				0.0204 mg/kg		0.0204 mg/kg	0.00000204 %		
			205-893-2	193-39-5							
24		dibenz[a,h]anthracene				0.0037 mg/kg		0.0037 mg/kg	0.000000374 %		
		601-041-00-2	200-181-8	53-70-3							
25	•	benzo[ghi]perylene				0.0225 mg/kg		0.0225 mg/kg	0.00000225 %		
			205-883-8	191-24-2							
								Total:	0.0566 %		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00204%)

Classification of sample: VC07 @ 14:45 0.00-0.15

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC07 @ 14:45 0.00-0.15

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.5	mg/kg	1.32	12.543	mg/kg	0.00125 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.08	mg/kg	1.142	0.0914	mg/kg	0.00000914 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				35.4	mg/kg	2.27	80.358	mg/kg	0.00804 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		9.2	mg/kg	1.126	10.358	mg/kg	0.00104 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	13.3	mg/kg	1.56	20.746	mg/kg	0.00133 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.04	mg/kg	1.353	0.0541	mg/kg	0.00000541 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		38.2	mg/kg	2.976	113.693	mg/kg	0.0114 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		57.8	mg/kg	2.774	160.346	mg/kg	0.016 %		
9		TPH (C6 to C40) petroleum group			TPH		9.33	mg/kg		9.33	mg/kg	0.000933 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		0.0011	mg/kg		0.0011	mg/kg	0.000000112 %		
11		acenaphthylene		205-917-1	208-96-8		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
12		acenaphthene		201-469-6	83-32-9		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
13		fluorene		201-695-5	86-73-7		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
14		phenanthrene		201-581-5	85-01-8		0.0032	mg/kg		0.0032	mg/kg	0.000000325 %		
15		anthracene		204-371-1	120-12-7		0.001	mg/kg		0.001	mg/kg	0.000000104 %		
16		fluoranthene		205-912-4	206-44-0		0.0066	mg/kg		0.0066	mg/kg	0.00000066 %		

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
17	•	pyrene				0.007 mg/kg		0.007 mg/kg	0.0000007 %		
			204-927-3	129-00-0							
18		benzo[a]anthracene				0.0028 mg/kg		0.0028 mg/kg	0.000000288 %		
		601-033-00-9	200-280-6	56-55-3							
19		chrysene				0.0035 mg/kg		0.0035 mg/kg	0.000000359 %		
		601-048-00-0	205-923-4	218-01-9							
20		benzo[b]fluoranthene				0.0034 mg/kg		0.0034 mg/kg	0.000000341 %		
		601-034-00-4	205-911-9	205-99-2							
21		benzo[k]fluoranthene				3.41e-06 mg/kg		3.41e-06 mg/kg	3.41e-10 %		
		601-036-00-5	205-916-6	207-08-9							
22		benzo[a]pyrene; benzo[def]chrysene				0.0034 mg/kg		0.0034 mg/kg	0.000000345 %		
		601-032-00-3	200-028-5	50-32-8							
23	•	indeno[123-cd]pyrene				0.0032 mg/kg		0.0032 mg/kg	0.000000325 %		
			205-893-2	193-39-5							
24	•	benzo[ghi]perylene				0.0034 mg/kg		0.0034 mg/kg	0.000000348 %		
			205-883-8	191-24-2							
								Total:	0.0403 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00093%)

Classification of sample: VC07 @ 14.45 0.15-0.50

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC07 @ 14.45 0.15-0.50

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.2	mg/kg	1.32	12.147	mg/kg	0.00121 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.1	mg/kg	1.142	0.114	mg/kg	0.0000114 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				33.9	mg/kg	2.27	76.953	mg/kg	0.0077 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		9.7	mg/kg	1.126	10.921	mg/kg	0.00109 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	17.1	mg/kg	1.56	26.673	mg/kg	0.00171 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.07	mg/kg	1.353	0.0947	mg/kg	0.00000947 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		36.3	mg/kg	2.976	108.038	mg/kg	0.0108 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		62.7	mg/kg	2.774	173.939	mg/kg	0.0174 %		
9		TPH (C6 to C40) petroleum group			TPH		48.3	mg/kg		48.3	mg/kg	0.00483 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		0.0423	mg/kg		0.0423	mg/kg	0.00000423 %		
11		acenaphthylene		205-917-1	208-96-8		0.0128	mg/kg		0.0128	mg/kg	0.00000128 %		
12		acenaphthene		201-469-6	83-32-9		0.0144	mg/kg		0.0144	mg/kg	0.00000144 %		
13		fluorene		201-695-5	86-73-7		0.0257	mg/kg		0.0257	mg/kg	0.00000257 %		
14		phenanthrene		201-581-5	85-01-8		0.21	mg/kg		0.21	mg/kg	0.000021 %		
15		anthracene		204-371-1	120-12-7		0.0662	mg/kg		0.0662	mg/kg	0.00000662 %		
16		fluoranthene		205-912-4	206-44-0		0.342	mg/kg		0.342	mg/kg	0.0000342 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
17	•	pyrene				0.366	mg/kg		0.366	mg/kg	0.0000366 %		
			204-927-3	129-00-0									
18		benzo[a]anthracene				0.241	mg/kg		0.241	mg/kg	0.0000241 %		
		601-033-00-9	200-280-6	56-55-3									
19		chrysene				0.227	mg/kg		0.227	mg/kg	0.0000227 %		
		601-048-00-0	205-923-4	218-01-9									
20		benzo[b]fluoranthene				0.178	mg/kg		0.178	mg/kg	0.0000178 %		
		601-034-00-4	205-911-9	205-99-2									
21		benzo[k]fluoranthene				0.0001	mg/kg		0.0001	mg/kg	0.000000017 %		
		601-036-00-5	205-916-6	207-08-9									
22		benzo[a]pyrene; benzo[def]chrysene				0.215	mg/kg		0.215	mg/kg	0.0000215 %		
		601-032-00-3	200-028-5	50-32-8									
23	•	indeno[123-cd]pyrene				0.135	mg/kg		0.135	mg/kg	0.0000135 %		
			205-893-2	193-39-5									
24		dibenz[a,h]anthracene				0.0309	mg/kg		0.0309	mg/kg	0.00000309 %		
		601-041-00-2	200-181-8	53-70-3									
25	•	benzo[ghi]perylene				0.134	mg/kg		0.134	mg/kg	0.0000134 %		
			205-883-8	191-24-2									
										Total:	0.045 %		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00483%)

Classification of sample: VC07 @ 14:45 0.50-1.00

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC07 @ 14:45 0.50-1.00

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		12.6	mg/kg	1.32	16.636	mg/kg	0.00166 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.22	mg/kg	1.142	0.251	mg/kg	0.0000251 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				45.8	mg/kg	2.27	103.966	mg/kg	0.0104 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		13.4	mg/kg	1.126	15.087	mg/kg	0.00151 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	32.6	mg/kg	1.56	50.85	mg/kg	0.00326 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.13	mg/kg	1.353	0.176	mg/kg	0.0000176 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		47.9	mg/kg	2.976	142.563	mg/kg	0.0143 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		84.3	mg/kg	2.774	233.861	mg/kg	0.0234 %		
9		TPH (C6 to C40) petroleum group			TPH		44.8	mg/kg		44.8	mg/kg	0.00448 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		0.0136	mg/kg		0.0136	mg/kg	0.00000136 %		
11		acenaphthylene		205-917-1	208-96-8		0.003	mg/kg		0.003	mg/kg	0.000000301 %		
12		acenaphthene		201-469-6	83-32-9		0.0047	mg/kg		0.0047	mg/kg	0.000000475 %		
13		fluorene		201-695-5	86-73-7		0.0092	mg/kg		0.0092	mg/kg	0.00000092 %		
14		phenanthrene		201-581-5	85-01-8		0.0639	mg/kg		0.0639	mg/kg	0.00000639 %		
15		anthracene		204-371-1	120-12-7		0.0214	mg/kg		0.0214	mg/kg	0.00000214 %		
16		fluoranthene		205-912-4	206-44-0		0.0894	mg/kg		0.0894	mg/kg	0.00000894 %		

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
17		pyrene				0.147 mg/kg		0.147 mg/kg	0.0000147 %		
			204-927-3	129-00-0							
18		benzo[a]anthracene				0.0519 mg/kg		0.0519 mg/kg	0.00000519 %		
		601-033-00-9	200-280-6	56-55-3							
19		chrysene				0.0594 mg/kg		0.0594 mg/kg	0.00000594 %		
		601-048-00-0	205-923-4	218-01-9							
20		benzo[b]fluoranthene				0.0642 mg/kg		0.0642 mg/kg	0.00000642 %		
		601-034-00-4	205-911-9	205-99-2							
21		benzo[k]fluoranthene				6.42e-05 mg/kg		6.42e-05 mg/kg	0.000000006 %		
		601-036-00-5	205-916-6	207-08-9							
22		benzo[a]pyrene; benzo[def]chrysene				0.0609 mg/kg		0.0609 mg/kg	0.00000609 %		
		601-032-00-3	200-028-5	50-32-8							
23		indeno[123-cd]pyrene				0.0463 mg/kg		0.0463 mg/kg	0.00000463 %		
			205-893-2	193-39-5							
24		dibenz[a,h]anthracene				0.0076 mg/kg		0.0076 mg/kg	0.00000076 %		
		601-041-00-2	200-181-8	53-70-3							
25		benzo[ghi]perylene				0.048 mg/kg		0.048 mg/kg	0.0000048 %		
			205-883-8	191-24-2							
								Total:	0.0591 %		

Key

	User supplied data
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00448%)

Classification of sample: VC08 @ 13:30 0.00-0.15

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC08 @ 13:30 0.00-0.15

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7.7	mg/kg	1.32	10.167	mg/kg	0.00102 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.12	mg/kg	1.142	0.137	mg/kg	0.0000137 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				31.4	mg/kg	2.27	71.278	mg/kg	0.00713 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		7.9	mg/kg	1.126	8.895	mg/kg	0.000889 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	12.4	mg/kg	1.56	19.342	mg/kg	0.00124 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.04	mg/kg	1.353	0.0541	mg/kg	0.00000541 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		33.8	mg/kg	2.976	100.598	mg/kg	0.0101 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		51.5	mg/kg	2.774	142.869	mg/kg	0.0143 %		
9		TPH (C6 to C40) petroleum group			TPH		14	mg/kg		14	mg/kg	0.0014 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		0.0041	mg/kg		0.0041	mg/kg	0.000000411 %		
11		acenaphthylene		205-917-1	208-96-8		0.0019	mg/kg		0.0019	mg/kg	0.000000199 %		
12		acenaphthene		201-469-6	83-32-9		0.0014	mg/kg		0.0014	mg/kg	0.000000142 %		
13		fluorene		201-695-5	86-73-7		0.0024	mg/kg		0.0024	mg/kg	0.000000248 %		
14		phenanthrene		201-581-5	85-01-8		0.0134	mg/kg		0.0134	mg/kg	0.00000134 %		
15		anthracene		204-371-1	120-12-7		0.0065	mg/kg		0.0065	mg/kg	0.000000655 %		
16		fluoranthene		205-912-4	206-44-0		0.019	mg/kg		0.019	mg/kg	0.0000019 %		

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
17	•	pyrene				0.0239 mg/kg		0.0239 mg/kg	0.00000239 %		
			204-927-3	129-00-0							
18		benzo[a]anthracene				0.0107 mg/kg		0.0107 mg/kg	0.00000107 %		
		601-033-00-9	200-280-6	56-55-3							
19		chrysene				0.0117 mg/kg		0.0117 mg/kg	0.00000117 %		
		601-048-00-0	205-923-4	218-01-9							
20		benzo[b]fluoranthene				0.0099 mg/kg		0.0099 mg/kg	0.000000991 %		
		601-034-00-4	205-911-9	205-99-2							
21		benzo[k]fluoranthene				9.91e-06 mg/kg		9.91e-06 mg/kg	9.91e-10 %		
		601-036-00-5	205-916-6	207-08-9							
22		benzo[a]pyrene; benzo[def]chrysene				0.0108 mg/kg		0.0108 mg/kg	0.00000108 %		
		601-032-00-3	200-028-5	50-32-8							
23	•	indeno[123-cd]pyrene				0.0082 mg/kg		0.0082 mg/kg	0.000000823 %		
			205-893-2	193-39-5							
24		dibenz[a,h]anthracene				0.0017 mg/kg		0.0017 mg/kg	0.000000178 %		
		601-041-00-2	200-181-8	53-70-3							
25	•	benzo[ghi]perylene				0.0089 mg/kg		0.0089 mg/kg	0.000000895 %		
			205-883-8	191-24-2							
								Total:	0.0361 %		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0014%)

Classification of sample: VC08 @ 13:30 0.15-0.60

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC08 @ 13:30 0.15-0.60

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		4.1	mg/kg	1.32	5.413	mg/kg	0.000541 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.08	mg/kg	1.142	0.0914	mg/kg	0.00000914 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				32.2	mg/kg	2.27	73.094	mg/kg	0.00731 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		9.1	mg/kg	1.126	10.246	mg/kg	0.00102 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	13.8	mg/kg	1.56	21.525	mg/kg	0.00138 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.04	mg/kg	1.353	0.0541	mg/kg	0.00000541 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		34.2	mg/kg	2.976	101.788	mg/kg	0.0102 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		60.2	mg/kg	2.774	167.004	mg/kg	0.0167 %		
9		TPH (C6 to C40) petroleum group			TPH		16.8	mg/kg		16.8	mg/kg	0.00168 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		0.0074	mg/kg		0.0074	mg/kg	0.000000743 %		
11		acenaphthylene		205-917-1	208-96-8		0.001	mg/kg		0.001	mg/kg	0.000000108 %		
12		acenaphthene		201-469-6	83-32-9		0.0034	mg/kg		0.0034	mg/kg	0.000000345 %		
13		fluorene		201-695-5	86-73-7		0.0038	mg/kg		0.0038	mg/kg	0.000000382 %		
14		phenanthrene		201-581-5	85-01-8		0.0271	mg/kg		0.0271	mg/kg	0.00000271 %		
15		anthracene		204-371-1	120-12-7		0.0093	mg/kg		0.0093	mg/kg	0.000000939 %		
16		fluoranthene		205-912-4	206-44-0		0.0425	mg/kg		0.0425	mg/kg	0.00000425 %		

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
17	•	pyrene				0.0472 mg/kg		0.0472 mg/kg	0.00000472 %		
			204-927-3	129-00-0							
18		benzo[a]anthracene				0.0247 mg/kg		0.0247 mg/kg	0.00000247 %		
		601-033-00-9	200-280-6	56-55-3							
19		chrysene				0.0267 mg/kg		0.0267 mg/kg	0.00000267 %		
		601-048-00-0	205-923-4	218-01-9							
20		benzo[b]fluoranthene				0.0223 mg/kg		0.0223 mg/kg	0.00000223 %		
		601-034-00-4	205-911-9	205-99-2							
21		benzo[k]fluoranthene				2.23e-05 mg/kg		2.23e-05 mg/kg	0.000000002 %		
		601-036-00-5	205-916-6	207-08-9							
22		benzo[a]pyrene; benzo[def]chrysene				0.0263 mg/kg		0.0263 mg/kg	0.00000263 %		
		601-032-00-3	200-028-5	50-32-8							
23	•	indeno[123-cd]pyrene				0.0193 mg/kg		0.0193 mg/kg	0.00000193 %		
			205-893-2	193-39-5							
24		dibenz[a,h]anthracene				0.004 mg/kg		0.004 mg/kg	0.000000407 %		
		601-041-00-2	200-181-8	53-70-3							
25	•	benzo[ghi]perylene				0.0195 mg/kg		0.0195 mg/kg	0.00000195 %		
			205-883-8	191-24-2							
								Total:	0.0389 %		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00168%)

Classification of sample: VC08 @ 13:30 0.60-1.10

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC08 @ 13:30 0.60-1.10

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		13.1	mg/kg	1.32	17.296	mg/kg	0.00173 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.17	mg/kg	1.142	0.194	mg/kg	0.0000194 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				44.9	mg/kg	2.27	101.923	mg/kg	0.0102 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		13.4	mg/kg	1.126	15.087	mg/kg	0.00151 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	36.5	mg/kg	1.56	56.933	mg/kg	0.00365 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.2	mg/kg	1.353	0.271	mg/kg	0.0000271 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		46	mg/kg	2.976	136.908	mg/kg	0.0137 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		90.5	mg/kg	2.774	251.06	mg/kg	0.0251 %		
9		TPH (C6 to C40) petroleum group			TPH		80.7	mg/kg		80.7	mg/kg	0.00807 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		0.0309	mg/kg		0.0309	mg/kg	0.00000309 %		
11		acenaphthylene		205-917-1	208-96-8		0.009	mg/kg		0.009	mg/kg	0.000000904 %		
12		acenaphthene		201-469-6	83-32-9		0.0098	mg/kg		0.0098	mg/kg	0.00000098 %		
13		fluorene		201-695-5	86-73-7		0.0174	mg/kg		0.0174	mg/kg	0.00000174 %		
14		phenanthrene		201-581-5	85-01-8		0.133	mg/kg		0.133	mg/kg	0.0000133 %		
15		anthracene		204-371-1	120-12-7		0.0475	mg/kg		0.0475	mg/kg	0.00000475 %		
16		fluoranthene		205-912-4	206-44-0		0.26	mg/kg		0.26	mg/kg	0.000026 %		

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
17	•	pyrene				0.353 mg/kg		0.353 mg/kg	0.0000353 %		
			204-927-3	129-00-0							
18		benzo[a]anthracene				0.188 mg/kg		0.188 mg/kg	0.0000188 %		
		601-033-00-9	200-280-6	56-55-3							
19		chrysene				0.198 mg/kg		0.198 mg/kg	0.0000198 %		
		601-048-00-0	205-923-4	218-01-9							
20		benzo[b]fluoranthene				0.208 mg/kg		0.208 mg/kg	0.0000208 %		
		601-034-00-4	205-911-9	205-99-2							
21		benzo[k]fluoranthene				0.0002 mg/kg		0.0002 mg/kg	0.00000002 %		
		601-036-00-5	205-916-6	207-08-9							
22		benzo[a]pyrene; benzo[def]chrysene				0.221 mg/kg		0.221 mg/kg	0.0000221 %		
		601-032-00-3	200-028-5	50-32-8							
23	•	indeno[123-cd]pyrene				0.172 mg/kg		0.172 mg/kg	0.0000172 %		
			205-893-2	193-39-5							
24		dibenz[a,h]anthracene				0.0354 mg/kg		0.0354 mg/kg	0.00000354 %		
		601-041-00-2	200-181-8	53-70-3							
25	•	benzo[ghi]perylene				0.158 mg/kg		0.158 mg/kg	0.0000158 %		
			205-883-8	191-24-2							
								Total:	0.0642 %		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00807%)

Classification of sample: VC09 @ 12:30 0.00-0.15

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC09 @ 12:30 0.00-0.15

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		15.1	mg/kg	1.32	19.937	mg/kg	0.00199 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.1	mg/kg	1.142	0.114	mg/kg	0.0000114 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				43.4	mg/kg	2.27	98.518	mg/kg	0.00985 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		10.4	mg/kg	1.126	11.709	mg/kg	0.00117 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	16.3	mg/kg	1.56	25.425	mg/kg	0.00163 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.07	mg/kg	1.353	0.0947	mg/kg	0.00000947 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		45.1	mg/kg	2.976	134.23	mg/kg	0.0134 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		64.7	mg/kg	2.774	179.487	mg/kg	0.0179 %		
9		TPH (C6 to C40) petroleum group			TPH		16.6	mg/kg		16.6	mg/kg	0.00166 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		0.0023	mg/kg		0.0023	mg/kg	0.000000235 %		
11		acenaphthylene		205-917-1	208-96-8		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
12		acenaphthene		201-469-6	83-32-9		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
13		fluorene		201-695-5	86-73-7		0.001	mg/kg		0.001	mg/kg	0.000000102 %		
14		phenanthrene		201-581-5	85-01-8		0.0078	mg/kg		0.0078	mg/kg	0.000000783 %		
15		anthracene		204-371-1	120-12-7		0.0032	mg/kg		0.0032	mg/kg	0.000000328 %		
16		fluoranthene		205-912-4	206-44-0		0.018	mg/kg		0.018	mg/kg	0.0000018 %		

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
17	•	pyrene				0.0203 mg/kg		0.0203 mg/kg	0.00000203 %		
			204-927-3	129-00-0							
18		benzo[a]anthracene				0.0098 mg/kg		0.0098 mg/kg	0.00000098 %		
		601-033-00-9	200-280-6	56-55-3							
19		chrysene				0.0114 mg/kg		0.0114 mg/kg	0.00000114 %		
		601-048-00-0	205-923-4	218-01-9							
20		benzo[b]fluoranthene				0.0134 mg/kg		0.0134 mg/kg	0.00000134 %		
		601-034-00-4	205-911-9	205-99-2							
21		benzo[k]fluoranthene				1.34e-05 mg/kg		1.34e-05 mg/kg	0.000000001 %		
		601-036-00-5	205-916-6	207-08-9							
22		benzo[a]pyrene; benzo[def]chrysene				0.0125 mg/kg		0.0125 mg/kg	0.00000125 %		
		601-032-00-3	200-028-5	50-32-8							
23	•	indeno[123-cd]pyrene				0.0113 mg/kg		0.0113 mg/kg	0.00000113 %		
			205-893-2	193-39-5							
24		dibenz[a,h]anthracene				0.0021 mg/kg		0.0021 mg/kg	0.000000217 %		
		601-041-00-2	200-181-8	53-70-3							
25	•	benzo[ghi]perylene				0.0109 mg/kg		0.0109 mg/kg	0.00000109 %		
			205-883-8	191-24-2							
								Total:	0.0479 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00166%)

Classification of sample: VC09 @ 12:30 0.15 -0.50

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC09 @ 12:30 0.15 -0.50

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		23.2	mg/kg	1.32	30.632	mg/kg	0.00306 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.12	mg/kg	1.142	0.137	mg/kg	0.0000137 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				41.9	mg/kg	2.27	95.113	mg/kg	0.00951 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		13.4	mg/kg	1.126	15.087	mg/kg	0.00151 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	30.9	mg/kg	1.56	48.198	mg/kg	0.00309 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.13	mg/kg	1.353	0.176	mg/kg	0.0000176 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		44.2	mg/kg	2.976	131.551	mg/kg	0.0132 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		79.9	mg/kg	2.774	221.654	mg/kg	0.0222 %		
9		TPH (C6 to C40) petroleum group			TPH		61.8	mg/kg		61.8	mg/kg	0.00618 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		0.0294	mg/kg		0.0294	mg/kg	0.00000294 %		
11		acenaphthylene		205-917-1	208-96-8		0.0077	mg/kg		0.0077	mg/kg	0.00000077 %		
12		acenaphthene		201-469-6	83-32-9		0.032	mg/kg		0.032	mg/kg	0.0000032 %		
13		fluorene		201-695-5	86-73-7		0.038	mg/kg		0.038	mg/kg	0.0000038 %		
14		phenanthrene		201-581-5	85-01-8		0.404	mg/kg		0.404	mg/kg	0.0000404 %		
15		anthracene		204-371-1	120-12-7		0.133	mg/kg		0.133	mg/kg	0.0000133 %		
16		fluoranthene		205-912-4	206-44-0		0.615	mg/kg		0.615	mg/kg	0.0000615 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
17	•	pyrene				0.589	mg/kg		0.589	mg/kg	0.0000589 %		
			204-927-3	129-00-0									
18		benzo[a]anthracene				0.338	mg/kg		0.338	mg/kg	0.0000338 %		
		601-033-00-9	200-280-6	56-55-3									
19		chrysene				0.33	mg/kg		0.33	mg/kg	0.000033 %		
		601-048-00-0	205-923-4	218-01-9									
20		benzo[b]fluoranthene				0.299	mg/kg		0.299	mg/kg	0.0000299 %		
		601-034-00-4	205-911-9	205-99-2									
21		benzo[k]fluoranthene				0.0002	mg/kg		0.0002	mg/kg	0.000000029 %		
		601-036-00-5	205-916-6	207-08-9									
22		benzo[a]pyrene; benzo[def]chrysene				0.324	mg/kg		0.324	mg/kg	0.0000324 %		
		601-032-00-3	200-028-5	50-32-8									
23	•	indeno[123-cd]pyrene				0.243	mg/kg		0.243	mg/kg	0.0000243 %		
			205-893-2	193-39-5									
24		dibenz[a,h]anthracene				0.0506	mg/kg		0.0506	mg/kg	0.00000506 %		
		601-041-00-2	200-181-8	53-70-3									
25	•	benzo[ghi]perylene				0.206	mg/kg		0.206	mg/kg	0.0000206 %		
			205-883-8	191-24-2									
										Total:	0.0591 %		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00618%)

Classification of sample: VC09 @ 12:30 0.50-1.00

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC09 @ 12:30 0.50-1.00

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		16.9	mg/kg	1.32	22.313	mg/kg	0.00223 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.24	mg/kg	1.142	0.274	mg/kg	0.0000274 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				53.1	mg/kg	2.27	120.537	mg/kg	0.0121 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		15.5	mg/kg	1.126	17.451	mg/kg	0.00175 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	45.4	mg/kg	1.56	70.816	mg/kg	0.00454 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.39	mg/kg	1.353	0.528	mg/kg	0.0000528 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		54.7	mg/kg	2.976	162.802	mg/kg	0.0163 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		104	mg/kg	2.774	288.511	mg/kg	0.0289 %		
9		TPH (C6 to C40) petroleum group			TPH		144	mg/kg		144	mg/kg	0.0144 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		0.136	mg/kg		0.136	mg/kg	0.0000136 %		
11		acenaphthylene		205-917-1	208-96-8		0.0567	mg/kg		0.0567	mg/kg	0.00000567 %		
12		acenaphthene		201-469-6	83-32-9		0.0395	mg/kg		0.0395	mg/kg	0.00000395 %		
13		fluorene		201-695-5	86-73-7		0.0783	mg/kg		0.0783	mg/kg	0.00000783 %		
14		phenanthrene		201-581-5	85-01-8		0.566	mg/kg		0.566	mg/kg	0.0000566 %		
15		anthracene		204-371-1	120-12-7		0.161	mg/kg		0.161	mg/kg	0.0000161 %		
16		fluoranthene		205-912-4	206-44-0		0.898	mg/kg		0.898	mg/kg	0.0000898 %		

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
17	•	pyrene				1.21 mg/kg		1.21 mg/kg	0.000121 %		
			204-927-3	129-00-0							
18		benzo[a]anthracene				0.566 mg/kg		0.566 mg/kg	0.0000566 %		
		601-033-00-9	200-280-6	56-55-3							
19		chrysene				0.574 mg/kg		0.574 mg/kg	0.0000574 %		
		601-048-00-0	205-923-4	218-01-9							
20		benzo[b]fluoranthene				0.691 mg/kg		0.691 mg/kg	0.0000691 %		
		601-034-00-4	205-911-9	205-99-2							
21		benzo[k]fluoranthene				0.0006 mg/kg		0.0006 mg/kg	0.000000069 %		
		601-036-00-5	205-916-6	207-08-9							
22		benzo[a]pyrene; benzo[def]chrysene				0.863 mg/kg		0.863 mg/kg	0.0000863 %		
		601-032-00-3	200-028-5	50-32-8							
23	•	indeno[123-cd]pyrene				0.668 mg/kg		0.668 mg/kg	0.0000668 %		
			205-893-2	193-39-5							
24		dibenz[a,h]anthracene				0.125 mg/kg		0.125 mg/kg	0.0000125 %		
		601-041-00-2	200-181-8	53-70-3							
25	•	benzo[ghi]perylene				0.528 mg/kg		0.528 mg/kg	0.0000528 %		
			205-883-8	191-24-2							
								Total:	0.0809 %		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0144%)

Classification of sample: VC10 @ 10:15 0.00-0.15

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC10 @ 10:15 0.00-0.15

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		11.8	mg/kg	1.32	15.58	mg/kg	0.00156 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.17	mg/kg	1.142	0.194	mg/kg	0.0000194 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				55.9	mg/kg	2.27	126.893	mg/kg	0.0127 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		10.8	mg/kg	1.126	12.16	mg/kg	0.00122 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	19	mg/kg	1.56	29.636	mg/kg	0.0019 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.07	mg/kg	1.353	0.0947	mg/kg	0.00000947 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		58.6	mg/kg	2.976	174.409	mg/kg	0.0174 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		80.9	mg/kg	2.774	224.428	mg/kg	0.0224 %		
9		TPH (C6 to C40) petroleum group			TPH		28.6	mg/kg		28.6	mg/kg	0.00286 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		0.005	mg/kg		0.005	mg/kg	0.000000501 %		
11		acenaphthylene		205-917-1	208-96-8		0.0014	mg/kg		0.0014	mg/kg	0.000000141 %		
12		acenaphthene		201-469-6	83-32-9		<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
13		fluorene		201-695-5	86-73-7		0.0016	mg/kg		0.0016	mg/kg	0.000000161 %		
14		phenanthrene		201-581-5	85-01-8		0.0146	mg/kg		0.0146	mg/kg	0.00000146 %		
15		anthracene		204-371-1	120-12-7		0.0056	mg/kg		0.0056	mg/kg	0.00000056 %		
16		fluoranthene		205-912-4	206-44-0		0.0306	mg/kg		0.0306	mg/kg	0.00000306 %		

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
17	•	pyrene				0.0326 mg/kg		0.0326 mg/kg	0.00000326 %		
			204-927-3	129-00-0							
18		benzo[a]anthracene				0.0191 mg/kg		0.0191 mg/kg	0.00000191 %		
		601-033-00-9	200-280-6	56-55-3							
19		chrysene				0.0198 mg/kg		0.0198 mg/kg	0.00000198 %		
		601-048-00-0	205-923-4	218-01-9							
20		benzo[b]fluoranthene				0.0193 mg/kg		0.0193 mg/kg	0.00000193 %		
		601-034-00-4	205-911-9	205-99-2							
21		benzo[k]fluoranthene				1.93e-05 mg/kg		1.93e-05 mg/kg	0.000000001 %		
		601-036-00-5	205-916-6	207-08-9							
22		benzo[a]pyrene; benzo[def]chrysene				0.0207 mg/kg		0.0207 mg/kg	0.00000207 %		
		601-032-00-3	200-028-5	50-32-8							
23	•	indeno[123-cd]pyrene				0.0182 mg/kg		0.0182 mg/kg	0.00000182 %		
			205-893-2	193-39-5							
24		dibenz[a,h]anthracene				0.0036 mg/kg		0.0036 mg/kg	0.000000364 %		
		601-041-00-2	200-181-8	53-70-3							
25	•	benzo[ghi]perylene				0.0175 mg/kg		0.0175 mg/kg	0.00000175 %		
			205-883-8	191-24-2							
								Total:	0.0603 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00286%)

Classification of sample: VC10 @ 10:15 1.00-1.50

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC10 @ 10:15 1.00-1.50

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		11.8	mg/kg	1.32	15.58	mg/kg	0.00156 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.21	mg/kg	1.142	0.24	mg/kg	0.000024 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				52.2	mg/kg	2.27	118.494	mg/kg	0.0118 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		10.9	mg/kg	1.126	12.272	mg/kg	0.00123 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	20.1	mg/kg	1.56	31.352	mg/kg	0.00201 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.08	mg/kg	1.353	0.108	mg/kg	0.0000108 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		53.5	mg/kg	2.976	159.23	mg/kg	0.0159 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		76.9	mg/kg	2.774	213.332	mg/kg	0.0213 %		
9		TPH (C6 to C40) petroleum group			TPH		35.7	mg/kg		35.7	mg/kg	0.00357 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		0.0176	mg/kg		0.0176	mg/kg	0.00000176 %		
11		acenaphthylene		205-917-1	208-96-8		0.004	mg/kg		0.004	mg/kg	0.0000004 %		
12		acenaphthene		201-469-6	83-32-9		0.007	mg/kg		0.007	mg/kg	0.000000708 %		
13		fluorene		201-695-5	86-73-7		0.0119	mg/kg		0.0119	mg/kg	0.00000119 %		
14		phenanthrene		201-581-5	85-01-8		0.107	mg/kg		0.107	mg/kg	0.0000107 %		
15		anthracene		204-371-1	120-12-7		0.0322	mg/kg		0.0322	mg/kg	0.00000322 %		
16		fluoranthene		205-912-4	206-44-0		0.162	mg/kg		0.162	mg/kg	0.0000162 %		

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
17	•	pyrene				0.158 mg/kg		0.158 mg/kg	0.0000158 %		
			204-927-3	129-00-0							
18		benzo[a]anthracene				0.0847 mg/kg		0.0847 mg/kg	0.00000847 %		
		601-033-00-9	200-280-6	56-55-3							
19		chrysene				0.0862 mg/kg		0.0862 mg/kg	0.00000862 %		
		601-048-00-0	205-923-4	218-01-9							
20		benzo[b]fluoranthene				0.078 mg/kg		0.078 mg/kg	0.0000078 %		
		601-034-00-4	205-911-9	205-99-2							
21		benzo[k]fluoranthene				7.8e-05 mg/kg		7.8e-05 mg/kg	0.000000007 %		
		601-036-00-5	205-916-6	207-08-9							
22		benzo[a]pyrene; benzo[def]chrysene				0.0758 mg/kg		0.0758 mg/kg	0.00000758 %		
		601-032-00-3	200-028-5	50-32-8							
23	•	indeno[123-cd]pyrene				0.0611 mg/kg		0.0611 mg/kg	0.00000611 %		
			205-893-2	193-39-5							
24		dibenz[a,h]anthracene				0.0125 mg/kg		0.0125 mg/kg	0.00000125 %		
		601-041-00-2	200-181-8	53-70-3							
25	•	benzo[ghi]perylene				0.0607 mg/kg		0.0607 mg/kg	0.00000607 %		
			205-883-8	191-24-2							
								Total:	0.0576 %		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00357%)

Classification of sample: VC10 @10:15 1.50-2.00

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
VC10 @10:15 1.50-2.00

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		15.4	mg/kg	1.32	20.333	mg/kg	0.00203 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.22	mg/kg	1.142	0.251	mg/kg	0.0000251 %		
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				51.2	mg/kg	2.27	116.224	mg/kg	0.0116 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		13	mg/kg	1.126	14.637	mg/kg	0.00146 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	24.8	mg/kg	1.56	38.683	mg/kg	0.00248 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.11	mg/kg	1.353	0.149	mg/kg	0.0000149 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		50.9	mg/kg	2.976	151.492	mg/kg	0.0151 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		80.5	mg/kg	2.774	223.319	mg/kg	0.0223 %		
9		TPH (C6 to C40) petroleum group			TPH		41.6	mg/kg		41.6	mg/kg	0.00416 %		
10		naphthalene	601-052-00-2	202-049-5	91-20-3		0.0083	mg/kg		0.0083	mg/kg	0.000000832 %		
11		acenaphthylene		205-917-1	208-96-8		0.0039	mg/kg		0.0039	mg/kg	0.000000391 %		
12		acenaphthene		201-469-6	83-32-9		0.0045	mg/kg		0.0045	mg/kg	0.000000458 %		
13		fluorene		201-695-5	86-73-7		0.0066	mg/kg		0.0066	mg/kg	0.000000668 %		
14		phenanthrene		201-581-5	85-01-8		0.0562	mg/kg		0.0562	mg/kg	0.00000562 %		
15		anthracene		204-371-1	120-12-7		0.0183	mg/kg		0.0183	mg/kg	0.00000183 %		
16		fluoranthene		205-912-4	206-44-0		0.112	mg/kg		0.112	mg/kg	0.0000112 %		

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
17	•	pyrene				0.117 mg/kg		0.117 mg/kg	0.0000117 %		
			204-927-3	129-00-0							
18		benzo[a]anthracene				0.0576 mg/kg		0.0576 mg/kg	0.00000576 %		
		601-033-00-9	200-280-6	56-55-3							
19		chrysene				0.0586 mg/kg		0.0586 mg/kg	0.00000586 %		
		601-048-00-0	205-923-4	218-01-9							
20		benzo[b]fluoranthene				0.0545 mg/kg		0.0545 mg/kg	0.00000545 %		
		601-034-00-4	205-911-9	205-99-2							
21		benzo[k]fluoranthene				5.45e-05 mg/kg		5.45e-05 mg/kg	0.000000005 %		
		601-036-00-5	205-916-6	207-08-9							
22		benzo[a]pyrene; benzo[def]chrysene				0.0592 mg/kg		0.0592 mg/kg	0.00000592 %		
		601-032-00-3	200-028-5	50-32-8							
23	•	indeno[123-cd]pyrene				0.0466 mg/kg		0.0466 mg/kg	0.00000466 %		
			205-893-2	193-39-5							
24		dibenz[a,h]anthracene				0.0087 mg/kg		0.0087 mg/kg	0.000000873 %		
		601-041-00-2	200-181-8	53-70-3							
25	•	benzo[ghi]perylene				0.0406 mg/kg		0.0406 mg/kg	0.00000406 %		
			205-883-8	191-24-2							
								Total:	0.0593 %		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Unlikely to be flammable in soil below this threshold

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00416%)

Appendix A: Classifier defined and non CLP determinands

- **TPH (C6 to C40) petroleum group** (CAS Number: TPH)

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: Flam. Liq. 3 H226 , Asp. Tox. 1 H304 , STOT RE 2 H373 , Muta. 1B H340 , Carc. 1B H350 , Repr. 2 H361d , Aquatic Chronic 2 H411

- **acenaphthylene** (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4 H302 , Acute Tox. 1 H330 , Acute Tox. 1 H310 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Skin Irrit. 2 H315

- **acenaphthene** (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2 H319 , STOT SE 3 H335 , Skin Irrit. 2 H315 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410 , Aquatic Chronic 2 H411

- **fluorene** (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

- **phenanthrene** (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Acute Tox. 4 H302 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Carc. 2 H351 , Skin Sens. 1 H317 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410 , Skin Irrit. 2 H315

- **anthracene** (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2 H319 , STOT SE 3 H335 , Skin Irrit. 2 H315 , Skin Sens. 1 H317 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

- **fluoranthene** (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Acute Tox. 4 H302 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

- **pyrene** (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Skin Irrit. 2 H315 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

- **indeno[123-cd]pyrene** (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Carc. 2 H351

- **benzo[ghi]perylene** (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 23 Jul 2015
Hazard Statements: Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Reasonable case CLP species based on hazard statements/molecular weight and most common (stable) oxide of arsenic. Industrial sources include: smelting; main precursor to other arsenic compounds (edit as required)

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. (edit as required) Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history (edit as required)

chromium in chromium(VI) compounds {chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex}

Worst case species based on hazard statements/molecular weight (edit as required)

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. (edit as required) Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected. (edit as required)

lead {lead chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

nickel {nickel chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

zinc {zinc chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.1, May 2018
HazWasteOnline Classification Engine Version: 2021.77.4714.9046 (18 Mar 2021)
HazWasteOnline Database: 2021.77.4714.9046 (18 Mar 2021)

This classification utilises the following guidance and legislation:
WM3 v1.1 - Waste Classification - 1st Edition v1.1 - May 2018
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017
13th ATP - Regulation (EU) 2018/1480 of 4 October 2018
14th ATP - Regulation (EU) 2020/217 of 4 October 2019
15th ATP - Regulation (EU) 2020/1182 of 19 May 2020
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2019 - UK: 2019 No. 720 of 27th March 2019
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020
The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020
POPs Regulation 2019 - Regulation (EU) 2019/1021 of 20 June 2019

E RE-USE CRITERIA

Table 5-1 Remediation Target Criteria

Parameter	Criterial (mg/kg)
Arsenic	37
Boron	290
Cadmium	11
Chromium (III)	910
Chromium (VI)	6
Copper	2400
Elemental Mercury	1.2
Inorganic Mercury	40
Nickel	180
Selenium	250
Vanadium	410
Zinc	370
Benzene	0.17
Toluene	290
Ethylbenzene	0.01
o-xylene	140
m-xylene	140
p-xylene	130
TPH Total*	1,000
TPH Aliphatic EC 5-6	78
TPH Aliphatic EC 6-8	230
TPH Aliphatic EC 8-10	65
TPH Aliphatic EC 10-12	330
TPH Aliphatic EC 12-16	1,000
TPH Aliphatic EC 16-35	1,000
TPH Aliphatic EC 35-44	1,000

TPH Aromatic EC5-7	140
TPH Aromatic EC 7-8	290
TPH Aromatic EC 8-10	0.01
TPH Aromatic EC 10-12	0.5
TPH Aromatic EC 12-16	0.5
TPH Aromatic EC 16-21	540
TPH Aromatic EC 21-35	1,000
TPH Aromatic EC 35-44	1,000
Acenaphthene	510
Acenaphthylene	0.5
Benz(a)anthracene	11
Benzo(a)pyrene	2.7
Benzo(b)fluoranthene	3.3
Benzo(ghi)perylene	340
Benzo(k)fluoranthene	93
Chrysene	22
Dibenz(ah)anthracene	0.28
Fluoranthene	560
Fluorene	400
Indeno(123-cd)pyrene	36
Naphthalene	0.5
Phenanthrene	220
Pyrene	1,200
Asbestos	<0.01%

*the overall TPH concentration in the samples requires to be lower than 1,000mg/kg as the initial target, there is also a secondary target criteria for specific TPH bandings with respect to human health.