BPEO STATEMENT AND ASSESSMENT OF CHEMICAL AND PHYSICAL CHARACTERISTICS OF THE DREDGED MATERIAL

1. Introduction

Bute Boatbuilders Ltd is a limited liability company on the Isle of Bute. Bute Boatbuilders builds new build vessels on a local and international platform, of currently up to 25M long, ranging from landing crafts to commercial ferries.

The proposed dredging area has not been dredged in modern times, but has the appearance of historic dredging. Due to natural siltation/gravel deposits from the intertidal and beyond MLWS from the shoreline to low water Bute Boatbuilders is hindered in its ability to provide adequate depth for launching of our new build aqua-culture vessels.

To restore adequate depths to the dredge area the following is proposed:

To proceed as soon as a marine licence can be obtained, to remove approximately 100 – 500 cum annually to maintain depths of 1.5M (chart datum).

This document describes the dredging and the material to be dredged, and includes Best Practicable Environmental Option (BPEO) Statement.

2. Description of Proposed Dredging

The area to be dredged comprises an accumulation of natural siltation/gravel at the end of the slipway, as shown on attached image of dredge area. The volume of material to be dredged is approximately 100 -500 cum annually to maintain depths of approximately 1.5M (chart datum).

The method to be adopted is proposed in document 1. Bute Boatbuilders Method Statement.

3. Material to be dredged

3.1 Physical Characteristics

Three samples of sediment taken from one dredge area on 6th May 2025 and samples analysed by Socotec and report delivered on 13th June 2025, indicate that the material is predominantly gravel and sand (average 51.93% gravel, average 42.13% sand, average silt 5.94%).

3.2Chemical Characteristics

The samples were analysed for Marine Dredge Licence Scotland suite of parameters and the results are attached "Pre-deposit Sampling Results Form". The findings show a make-up of gravel, sand and silt as the three main components.

The levels of contaminates in each of the three sample areas are as follows:

Arsenic	Area 1) 7.8	Area 2) 5.8	Area 3) 6.9	below Action Level 1 (ppm)
Cadmium	Area1) 0.32	Area 2) 0.20	Area 3) 0.15	below Action Level 1 (ppm)
Chromium	Area 1) 35.7	Area 2) 44.2	Area 3) 36.7	below Action Level 1(ppm)
Copper	Area 1) 35.8	Area 2) 22.4	Area 3) 29.7	AL1 for area 1
Mercury	Area 1) 0.15	Area 2) 0.06	Area 3) 0.03	below Action Level 1 (ppm)
Nickel	Area 1) 32.2	Area 2) 41.2	Area 3) 36.9	Action Level 1 (ppm)
Lead	Area 1) 28.5	Area 2) 16.4	Area 3) 12.4	below Action Level 1 (ppm)
Zinc	Area 1) 106	Area 2) 94.2	Area 3) 87.5	below Action Level 1 (ppm)
Tributyltin	Area 1) <5	Area 2) <5	Area 3) <5	below Action Level 1 (ppm)

The main contaminants which make up the samples are copper and nickel. The copper is historic, and could potentially be from copper nails used in the construction of wooden boats which were built on site more than 100 years ago. Nickel is potentially from weathering of minerals and rocks, or old industrial discharge.

4. BPEO Statement

Section 34 of the Environmental Protection Act 1990 imposes a duty of care on businesses to take all measures appropriate in the circumstances to apply the waste hierarchy set out in Article 4(1) of the Waste Directive. The waste hierarchy ranks waste management options according to the best environmental outcome whilst taking into account the lifecycle of the material. Quite simply, the waste hierarchy gives top priority to preventing waste. How the waste can be re-used, recovered, or environmentally disposed of.

4.1 DISPOSAL AT SEA

The preferred dredging method is to hire Offshore Workboats Ltd using a combination of backhoe and plough dredging method. This would remove any sediment during the dredging to the deeper water for disposal. This stops any contaminants from the previous proposed bucket method from disrupting the marine balance if side-cast had been used. Further information of the dredging method is shown in the "Method Statement" also attached for submitting with the licence application.

5. "DO NOTHING APPROACH"

Having fully considered the "do nothing approach" the reality of not dredging seabed at the edge of the slipway would prove financially costly, and Bute Boatbuilders would be unable to launch their larger aqua-culture new build vessels, or indeed overhaul them when up on an annual basis. It would hold back necessary growth, and it is vital to dredge in order for the Company to not only survive, but thrive in a difficult environment.

Updated August 2026