17.A

APPENDIX 17.A Preliminary Risk Assessment

MAKING COMPLEX EASY

A TETRA TECH COMPANY

STENA LINKSPAN REPLACEMENT – FISHGUARD HARBOUR

Preliminary Risk Assessment (Desky Study) Report

POR-00886
Linkspan Replacement, Fishguard Harbour – Preliminary Risk Assessment Report
Final
09 May 2025

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Joseph McGrath	9 May 2025

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1 INTRODUCTION

1.1 Project Description

RPS was appointed by Stena to undertake a Preliminary Risk Assessment (Desk Study) Report in support of a proposed new linkspan replacement at Fishguard Harbour, Wales.

This Preliminary Risk Assessment describes the research and assessments undertaken to assess the ground conditions and potential for any ground contamination that may have arisen from the site's present and historical use.

1.2 Report Objectives and Scope

The objectives of this report are as follows:

- Collate desk study information regarding the site and surrounds to allow the identification of potential contaminant sources, potential pathways and potential receptors in accordance with Land contamination risk management (LCRM). This will form the basis of the Preliminary Risk Assessment and production of a Conceptual Site Model (CSM).
- Collation of existing geo-environmental data to facilitate a risk assessment with regards to potential risks to human health and environmental risks.
- Assessment of the above to determine environmental risk and liability.

1.3 Sources of Information

Sources of information used in the production of this report include:

- Envirocheck Report number 144469394_1_1 (included in Appendix A)
- Internet based aerial photography
- Public Health England, UK Radon Map (http://www.ukradon.org/information/ukmaps)

1.4 Guidance

The following guidance documents have been used in the production of this report;

- Land contamination risk management (LCRM) - How to assess and manage the risks from land contamination. Environment Agency, October 2020.
- Redeveloping Land Affected by Contamination – A developers Guide to Planning Considerations and Environmental Responsibilities. DAERA, April 2019.

1.5 Risk Assessment

1. Underpinning the guidance within LCRM is a source-pathway-receptor methodology, which is used to identify Significant Pollutant Linkages (SPLs). The following definitions apply: -

   Source: a contaminant or pollutant that is in, on or under the land and that has the potential to cause harm or pollution.

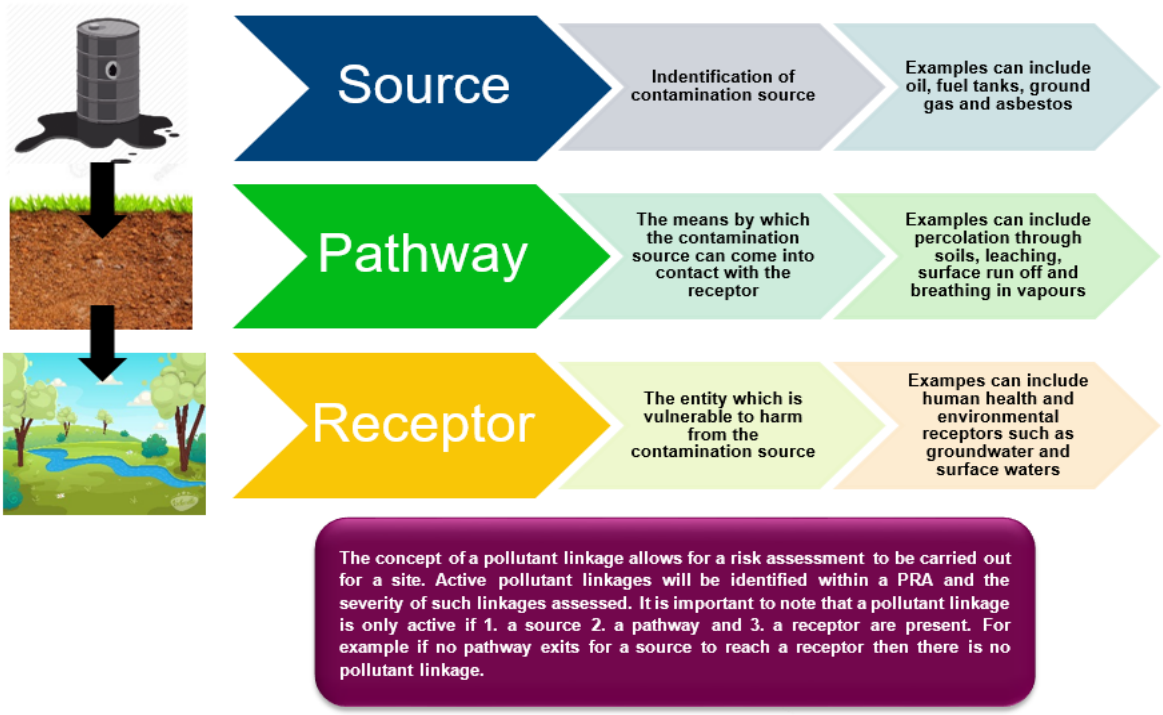
   Pathway: a route by which a receptor is or could be affected by a contaminant

   Receptor: something that could be adversely affected by a contaminant, for example a person, controlled waters, an organism, an ecosystem, or Part 2A receptors such as buildings, crops, or animals

2. An important thread throughout the overall process of risk assessment is the need to formulate and develop a conceptual model for the site, which supports the identification and assessment of pollutant linkages. Development of the conceptual model forms the main part of the preliminary risk assessment, and the model is subsequently refined or revised as more information and understanding is obtained through the risk assessment process. A risk is present only when a source-pathway-receptor linkage is present and active. Without a pollutant linkage, there is not a risk, even if a contaminant is present.

1.6 Pollutant Linkage Diagram

Figure 1-1 Pollutant Linkage Diagram



1.7 Limitations

This report is for the use of Stena only and should not be relied upon by other parties unless specifically advised by RPS in writing. Furthermore, new information, design changes, changed practices or new legislation may necessitate revised interpretation of the report after its date of submission.

This report has been prepared by RPS on the basis of the available information received during the study period. Although every reasonable effort has been made to obtain all relevant information, all potential contaminants, environmental constraints or liabilities associated with the site may not necessarily have been revealed.

2 SITE DESCRIPTION

2.1 Site Location

As shown on Figure 2.1, the site under consideration is the Stenaline Roll on Roll Off ferry terminal at Fishguard Port, Wales.

Figure 2-1 Study Area Location



2.2 Existing Layout

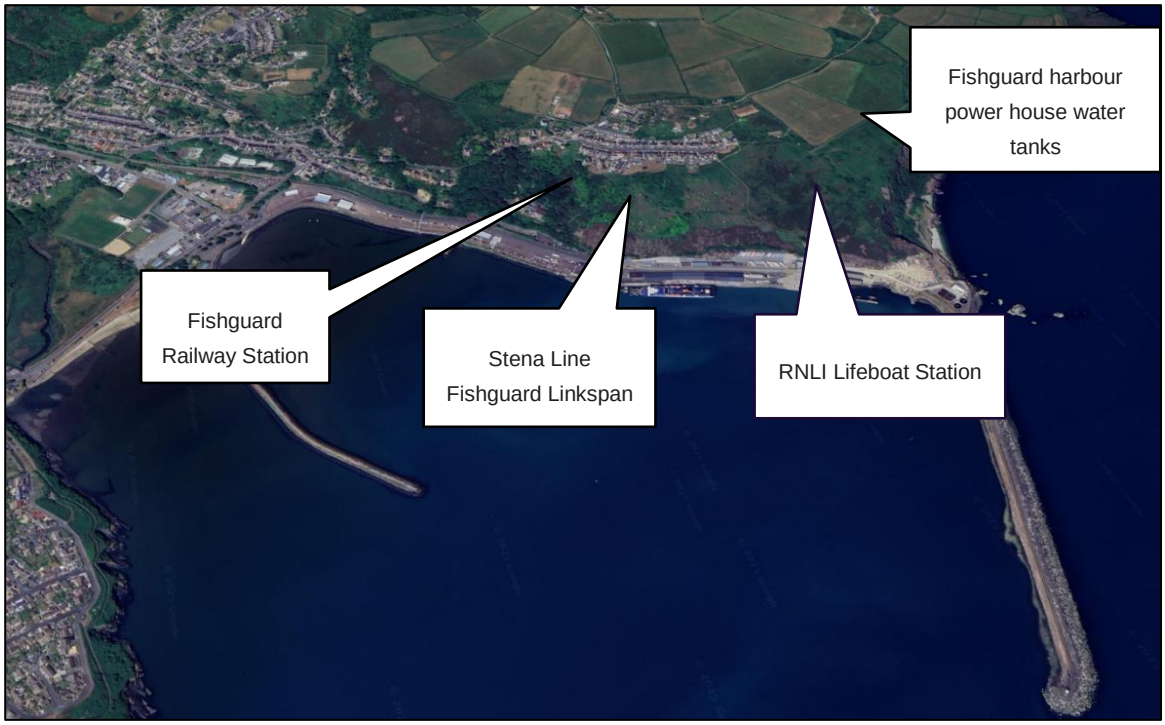
Fishguard Port is a linear port, approximately 80 m wide and 1500 m in length, built on reclaimed land at the base of a steep vegetated slope (Figure 1). The land is owned by Stena, but leased in part to Network Rail, who operate the Fishguard Harbour station and one railway at the northern end of the port.

Currently Fishguard port operations are dominated by the twice daily ferry service to Rosslare. The ferry docks on a temporary linkspan alongside the Fishguard Harbour railway station approximately halfway along the length of the port.

The majority of the space within the southern half of the port is taken up by access and exit lanes for ferry traffic, and parking for passengers and freight. A security office, a passenger cafe/terminal building and a footbridge connecting Quay Road behind the port and the public footpath to the front of the port are the only structures south the linkspan.

The northern end of the port houses Stena offices, two workshops, and an RNLI station. Three above ground fuel storage tanks at the back of the quayside service the ferry, with the pipeline connected through a tunnel, which exits out of the face of the quay wall.

Figure 2-2 Existing Layout



2.2.1 Current site use

Currently the site is operational as a Roll on Roll Off ferry for vehicles boarding/ departing the Stena Line from Fishguard, UK – Rosslare, IE.

2.2.2 Ground Cover

The groundcover of the port leading onto the ferry terminal is comprised of hardstanding bitmac surfacing used for vehicle transportation / parking.

2.2.3 Topography

The topography of the harbour is level throughout with a gradual slope to the north to the existing linkspan to board / disembark the Stena Line.

2.2.4 Potential contamination sources

Due to day to ay operations on the port terminal, fuel tanks are present in the northern region. The railway line has potential as a contaminating land use due to the presence of Hydrocarbons, Polychlorinated Biphenyls (PCBs), Polycyclic Aromatic Hydrocarbons (PAHs), Solvents, Creosote and Herbicides.

As the majority of the area surrounding the site has been historically infilled or reclaimed, it is considered likely that made ground will be encountered at or near the ground surface.

2.3 Surrounding Land-use

The pertinent surrounding land uses of the site are listed in Table 2.2.

Table 2-1 Surrounding Land Uses

Boundary	Surrounding Land Uses of the Proposed Development
North	The Stena line offices are present, c.240m north of the site and a container storage area, c.320m north. The RNLI Fishguard Lifeboat Station is situated c.390m north. Further northwest, c.580m Fishguard Harbour Powerhouse Water Tanks are situated.
East	Immediately east of the site is Fishguard Harbour.
South	Vehicle parking is situated c.150m south of the site and the Fishguard Harbour Railway Station is present c.90m south.
West	C.80m west of the site a steep hill is present rising up to Harbour Village Holiday Cottages, c.300m west.

2.4 Proposed Development

This Preliminary Risk Assessment has been prepared in support to remove the exiting linkspan which is approaching its end of life and replace it with a modern linkspan. To facilitate access to the new linkspan, the existing open pile deck structure and dolphin are to be partially demolished and replaced with a reclaimed approach area to accommodate the new linkspan geometry. A new pavement will be constructed on this area of reclaimed land and faced on the seaward slope with a stone armoured revetment.

3 SITE HISTORY

3.1 Historical Development of the Site

A review of available historical ordnance survey maps was undertaken to ascertain the development history of the site. Table 3.1 provides a summary of potentially contaminating activities during the history of the site and its surrounding area; snapshots of the maps are included in Appendix B.

Table 3-1 Historical Site and Surrounding Area Development

Date	Site History	Surrounding Land Use History
1888 - 1889	The site is undeveloped and appears to be natural headland.	The wider Fishguard Harbour appears undeveloped. The town of Goodwick is present 500m south of the site.
1907 - 1908	A railway line is now present running north to south through the site. Fishguard Harbour Station is present just north of the site area.	The wider Fishguard Harbour has been developed with a large breakwater north of the site and a number of quays along the railway line which leads to Goodwick including Goodwick Quay. A quarry is present 500m west of the site.
1937 - 1938	There has been an increase in the number of railway lines running through the site. Two cattle sheds are labelled just north of the site. A lifeboat station is present immediately south of the site.	Increased development is present west and southwest of the site with a holiday village and hotel.
1963 - 1964	No significant change	No significant change
1973 – 1975	The linkspan is now present.	No significant change. A Customs Shed is present south of the site adjacent to Goodwick Quay.
1994	No significant change	No significant change
2003 Aerial Photography	The site appears similar to today. A single railway line is still present.	No significant change

The historic mapping indicates that the site has been used as a port/harbour since the early 1990s.

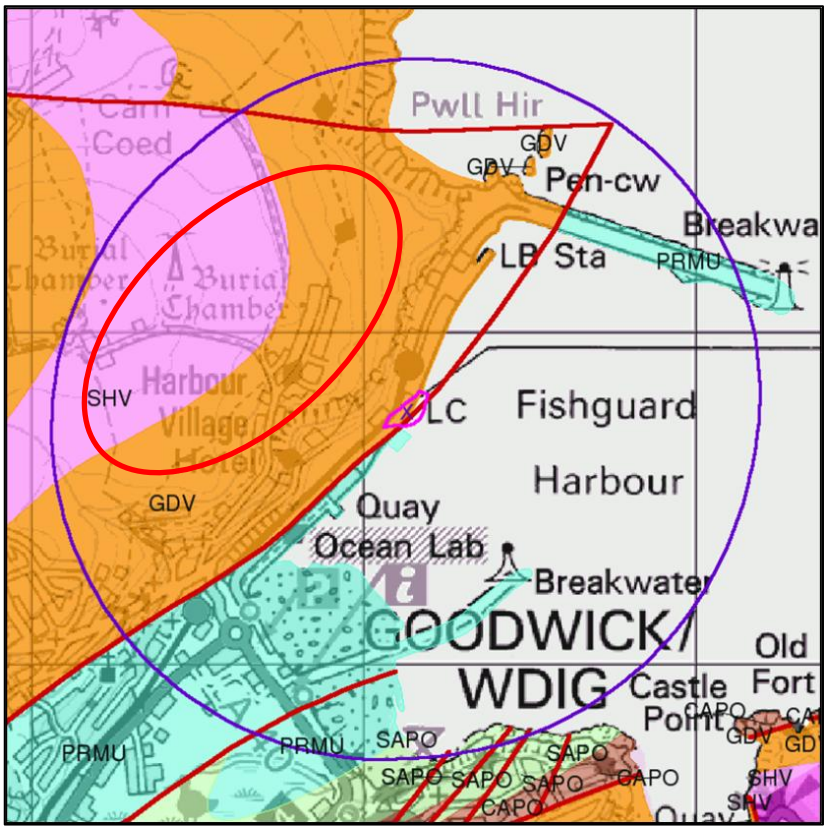
4 SITE GEOLOGY AND HYDROGEOLOGY

A desk study of published material held on British Geological Survey's GeoIndex (online portal) was undertaken to provide an initial overview of ground conditions throughout the study area. The following describes the findings of this preliminary research.

4.1 Solid Geology

The bedrock geology anticipated in the vicinity of the study area is shown in Figure 4.1. The site falls on a fault line which separates the Penyraber Mudstone Formation to the southeast from the Goodwick Volcanic Formation to the northwest.

Figure 4-1 Solid Geology

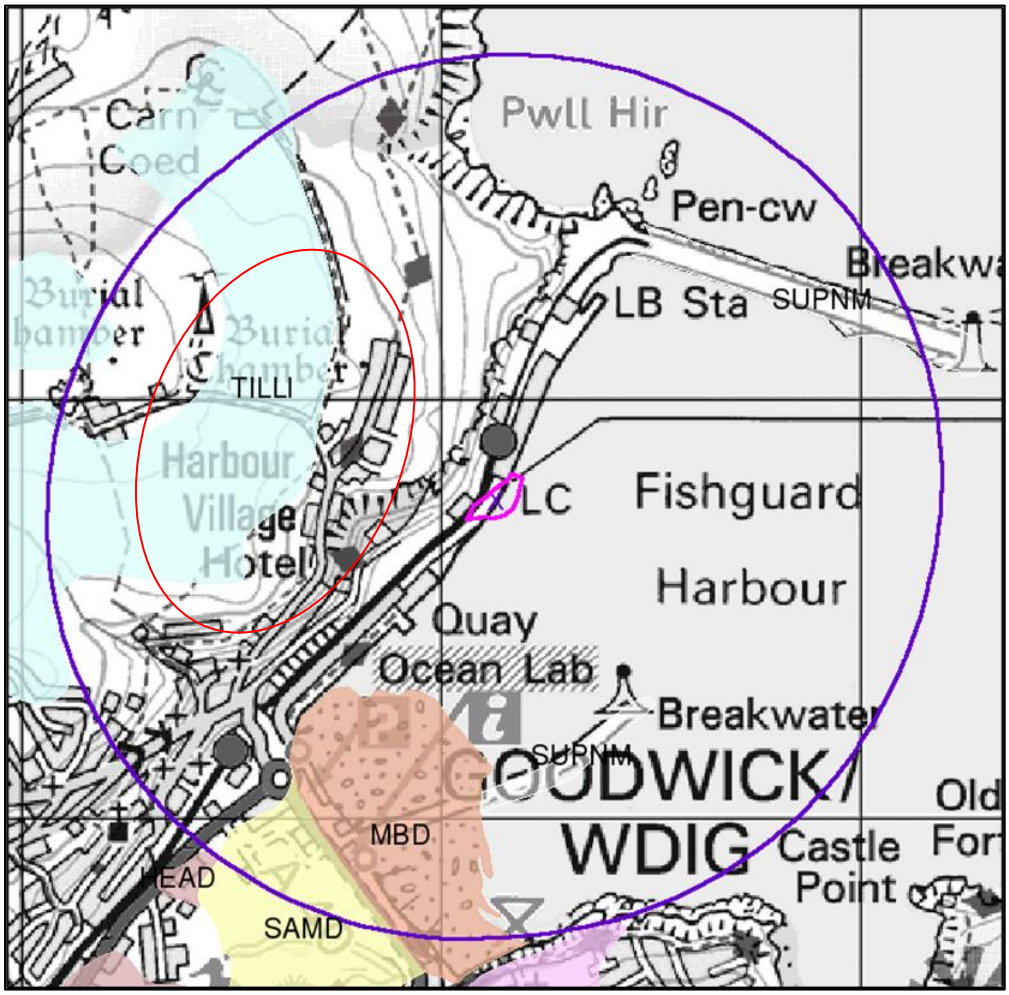


Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	PRMU	Penyraber Mudstone Formation	Mudstone	Caradoc - Caradoc
	SAPO	Saddle Point Member	Siltstone	Caradoc - Caradoc
	CAPO	Castle Point Member	Sandstone	Caradoc - Caradoc
	GDV	Goodwick Volcanic Formation	Rhyolite	Abereiddian - Abereiddian
	SHV	Strumble Head Volcanic Formation	Basalt, Lava-Pillowed	Abereiddian - Abereiddian
	GDV	Goodwick Volcanic Formation	Sandstone	Abereiddian - Abereiddian
		Faults		

4.2 Drift Geology

As shown in Figure 4.2, as the study area is developed / reclaimed land, it lies outside the geological mapping. However, the surrounding area to the west is anticipated to be underlain by till-diamicton deposits. Figure 4.2 further shows that areas to the south are underlain by Marine Beach deposits and Saltmarsh deposits. Given the developed nature of area within the study area, made ground would be expected to be present near the surface.

Figure 4-2 Drift Geology (taken from GSNI's GeoIndex portal)

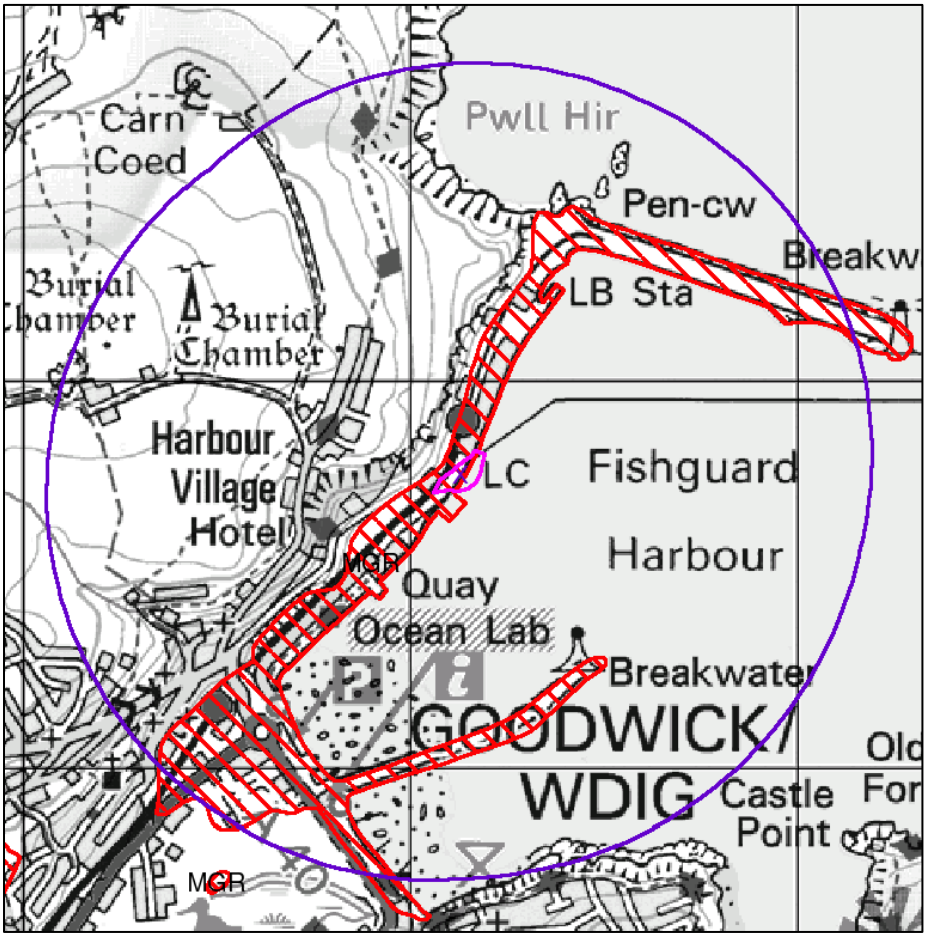


Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	SAMD	Saltmarsh Deposits	Sand, Silt and Clay	Holocene - Holocene
	GFICI	Glaciofluvial Ice Contact Deposits, Devensian (Irish Sea Ice)	Sand and Gravel	Devensian - Devensian
	GFDIS	Glaciofluvial Deposits, Devensian (Irish Sea Ice)	Sand and Gravel	Devensian - Devensian
	TILLI	Till (Irish Sea Ice)	Diamicton	Pleistocene - Pleistocene
	MBD	Marine Beach Deposits	Sand and Gravel	Quaternary - Quaternary
	HEAD	Head	Clay, Silt, Sand and Gravel	Quaternary - Quaternary

4.3 Artificial Ground

Figure 4.3 below highlights the presence of made ground within the site and the surrounding location of the Port. This is anticipated to be near the surface as it is reclaimed land.

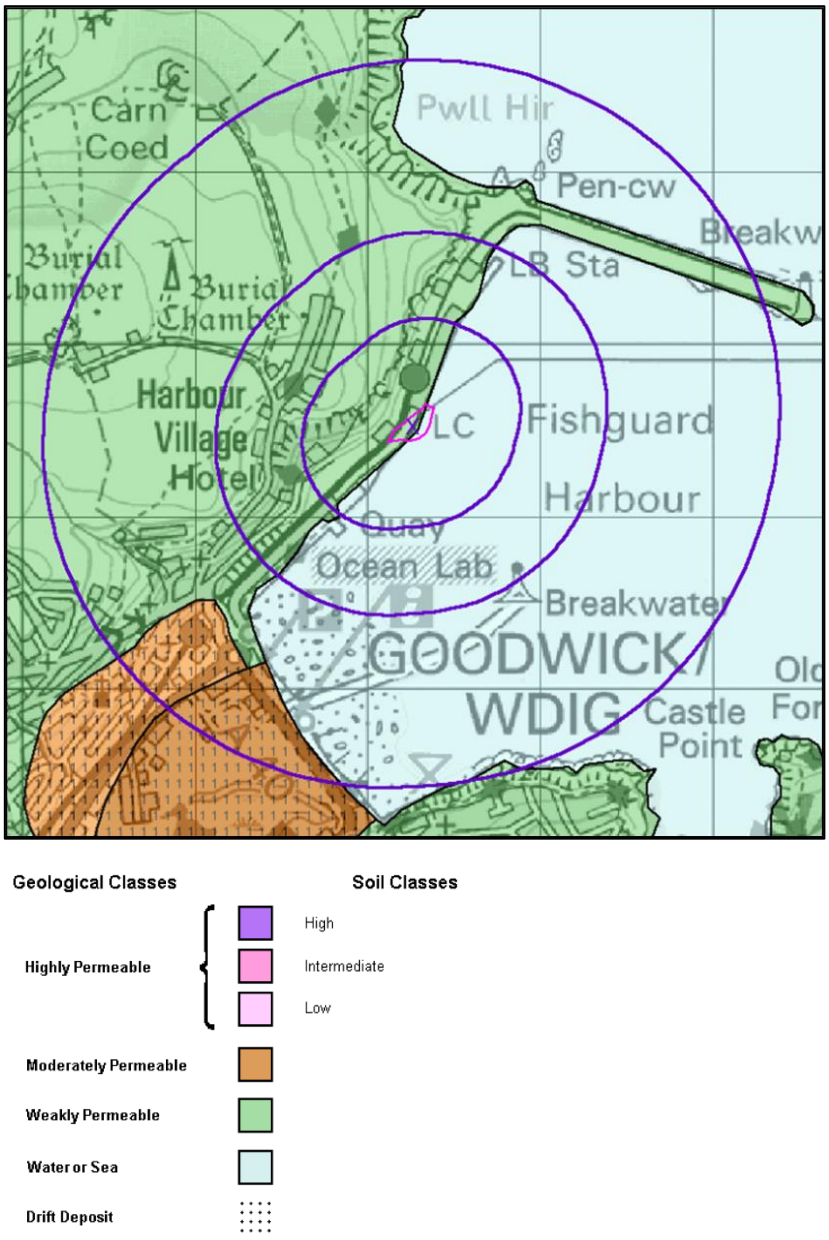
Figure 4-3 Artificial Ground



4.4 Groundwater Vulnerability

In accordance with the Water Framework Directive (2000/60/EC) it is necessary to understand the groundwater vulnerability of the study area, which is defined as the tendency and likelihood for general contaminants to reach the water table after introduction at the ground surface. The southern overlies a weakly permeable area

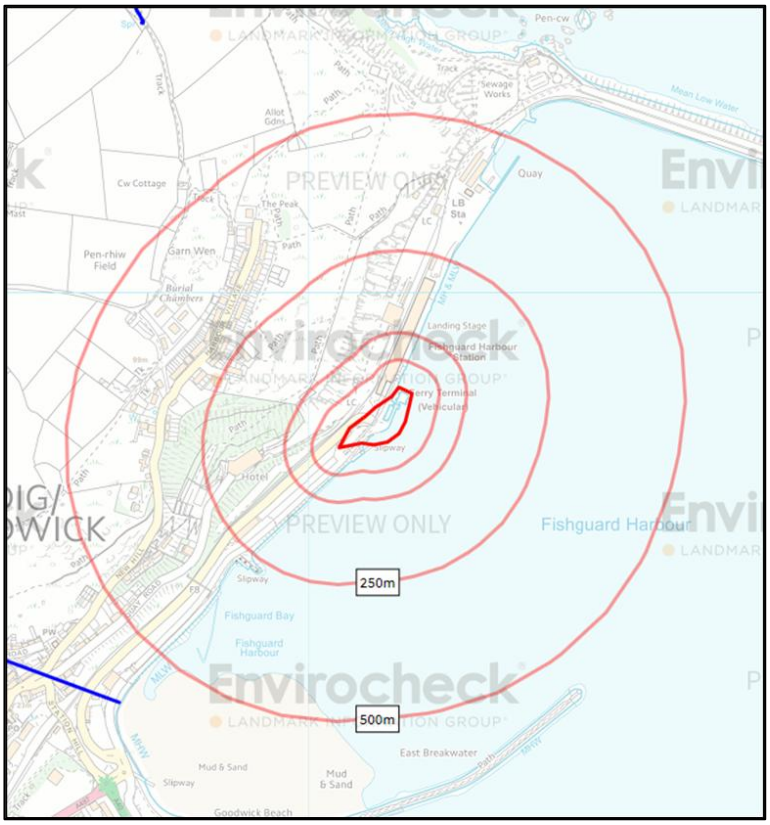
Figure 4-4 Groundwater Vulnerability



4.5 Surface Water Hydrology

As shown in Figure 4.6, Fishguard Harbour is located directly east of the site. No inland watercourses are present within 500m of the site.

Figure 4-6 Surface Water Hydrology (taken from NIEA WMU web viewer)



5 PREVIOUS GROUND INVESTIGATIONS/ SURROUNDING REPORTS

RPS have been provided with a former intrusive land and marine ground investigation that was undertaken by Fugro Seacore Ltd (FSCL) at Fishguard Marina in April and May 2015. The investigation comprised:

- Thirteen (13) light cable tool percussion boreholes to a maximum depth below seabed level of 25.00m.
- Seven (7) light cable tool percussion boreholes to a maximum depth below seabed level of 4.00m to obtain Cefas (Centre for Environmental Fisheries Aquaculture Science) samples.
- Thirteen (13) light cable tool percussion boreholes continued with rotary coring to a maximum depth below seabed level of 37.50m.
- A single rotary open hole with rotary coring follow on to a maximum depth below seabed level of 33.50m.
- Seven (7) static cone penetration tests to a maximum depth below seabed level of 21.13m.

Three marine boreholes (BH09, BH10 and BH33) were advanced in the area of the Stenaline terminal; the logs for these boreholes are included in Appendix C. The sediment material comprised, silts, sands and gravels to a maximum depth of 22.30m bgl whereby strong light grey BASALT was encountered.

5.1 British Geological Survey Records

British Geological Survey (BGS) have information on two historical boreholes very close to the existing linkspan at Fishguard Harbour. Both boreholes are offshore and were drilled in 1964 by Foundation Engineering Ltd. Borehole SM93NE14 is located just offshore from the southern portion of the linkspan and is summarised in Table 5.1.

Table 5-1 Historical Borehole SM93NE14

Depth	Strata
0.00 - 0.91	Dense, sandy, silty GRAVEL f.c. and boulders
0.91 - 1.82	BOULDERS
1.82 - 2.44	Hard, light brown, LAVA (believed to be bedrock)

Historical borehole SM93NE14 is located just north of the linkspan and is summarised in Table 5.2.

Table 5-2 Historical borehole SM93NE15

Depth	Strata
0.00 – 3.43	Dense, sandy, silty GRAVEL f.c. and boulders

5.2 Envirocheck Report

A number of directories are consulted within the Envirocheck Report to assess the presence of potentially contaminating land uses. The key findings within a 1000m buffer of the site have been summarised below:

- A discharge consent exists for discharging sewerage into Fishguard Harbour 250m north of the site.
- A potential explosive storage site is present 93m north of the site.
- Potentially infilled land is present within the site.

5.2.1 Sensitive Land uses

A National Park is present 800m north of the site. There are no designated Special Areas of Conservation within the vicinity of the site.

6 OVERVIEW OF POTENTIAL CONTAMINATION

6.1 Introduction

The nature of potential contamination that may have arisen from current and past activities on and surrounding the study area is considered below.

6.2 On Site Sources

6.2.1 Current Land Use

The site is currently used as a ferry terminal. Three above ground fuel storage tanks are present in the north of the site which store heavy fuel oil for refuelling the ferry. The proposed redevelopment will not involve any alteration to these fuel tanks.

The railway line has the potential to be a contaminating land use. The DOE Industry Profile for Railway Land suggests the contaminants most likely to be present include Hydrocarbons, Polychlorinated biphenyls (PCBs), Polycyclic Aromatic Hydrocarbons (PAHs), Solvents, Creosote and Herbicides

As the majority of the area surrounding the site has been historically infilled or reclaimed, it is considered likely that made ground will be encountered at or near the ground surface.

6.2.2 Previous Land Use – Historical Development

Historically, the site has been used as port/quay with likely storage of goods on the quayside. Historic maps identify ‘cattle sheds’ present which suggests that it is unlikely that the port was used for importing/exporting large scale bulk goods or minerals.

6.2.3 Ground Borne Gases

The presence of made ground and/or organic rich soils beneath the site has the potential to be a source of harmful ground gases.

6.2.4 Radon gas

The UK Radon Map shows that the site falls across an area of medium radon potential. It is estimated that 5-10% of homes in the vicinity of the site are anticipated to be above the action level.

6.3 Off-site sources

6.3.1 Surrounding Land Uses – Current

Other than activities associated with the operation of the ferry terminal (refuelling), no significant off-site sources were identified.

6.3.2 Surrounding Land Uses – Historical

The predominant surrounding historic land use was railway land which has the potential to be contaminating as indicated in Section 3.1

6.4 Pathways

Potential pathways for contaminants include through dermal contact and or ingestion of/with contaminants present within the soil and groundwater, inhalation of contaminants in the form of fugitive dusts, ground gases / groundwater vapours, vertical migration in the shallow groundwater, horizontal migration to deeper groundwater and subsurface infiltration.

6.5 Receptors

Potential human health receptors at the site in relation to the proposed development include construction personnel during development. The proposed works are to replace the existing linkspan structure with a new floating linkspan pontoon, with associated engineering works including demolition, dredging, piling, land reclamation, and rock armour revetment construction. Environmental receptors include the Fishguard Bay, the shallow perched groundwater, controlled groundwater and any groundwater present at depth.

7 CONCEPTUAL SITE MODEL

7.1 Conceptual Site Model

Risk estimation involves detailed evaluation of source - pathway - receptor scenarios to determine whether a linkage exists between any sources of contamination and potential receptors. A risk exists where a receptor is exposed to a source of contamination, via a pathway. If any element of the source-pathway-target linkage is absent, then no risk is present.

In order to consider potential risks at the site, a conceptual site model was developed, to examine the potential source - pathway - receptor linkages that may exist on the site. The conceptual model and the risk assessment for the site are illustrated in Table 8.1.

Table 7-1 Outline Conceptual Site Model

Source	Potential Pathway(s)	Potential Receptor(s)	Relevant Source – Pathway – Receptor Linkage	Further Investigation Required
On site sources				
Contaminants within the soils and groundwater	Dermal contact, ingestion of/and direct inhalation of potential contaminants present within soil.	Humans in form of construction workers during cable installation / earthworks.	**Low** The site is covered in concrete hard standing with no pathway for contaminants to impact human health.	**No** It is anticipated that the risks associated with contaminants in shallow soils / groundwater at the site can be mitigated during excavations through the appropriate use of PPE. It is however, recommended that any soil and / or groundwater that needs to be removed to facilitate works should be tested, and where appropriate, a waste classification is undertaken, to facilitate disposal at a licenced facility. Risk to groundwater and surface water receptors is considered to be low.
	Subsurface infiltration, leaching from sub-soils and groundwater flow.	Groundwater Fishguard Harbour	**Low** The vulnerability of groundwater beneath the site is low and is described as a non-aquifer.	

Source	Potential Pathway(s)	Potential Receptor(s)	Relevant Source – Pathway – Receptor Linkage	Further Investigation Required
Soil Gas: Radon	Migration along cracks in foundations and service trenches.	Humans in the form of future site users.	**Low** The proposed development does not incorporate the construction of new buildings.	**No**
Soil Gas: Made Ground or highly organic soils can produce methane, carbon dioxide and depleted oxygen gases.	The relevant pathway associated with migration along cracks in the foundations and service trenches is not considered to be applicable as the works only outline the installation of a cable, no buildings are proposed.	Humans in the form of future site users.	**Low** No buildings are proposed as part of the redevelopment and as such no receptor would exist for ground gas ingress.	**No** No significant pathway for ground gases has been identified in relation to the proposed cable installation.
Fuel Storage	Subsurface infiltration Leaching from sub-soils Groundwater flow	Shallow groundwater Fishguard Harbour	**Low** The vulnerability of groundwater beneath the site is low and is described as a non-aquifer. The fuel tanks will not be disturbed by the proposed development.	
Off-site sources				
Current and historical surrounding land uses: Potential presence of a wide range of contaminants in soils	Subsurface infiltration Leaching from sub-soils Groundwater flow	Groundwater Fishguard Harbour	**Low** A limited range of potentially contaminating historical land uses exist in the area surrounding the site.	**No**

8 CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusion

The desk study has highlighted that no potential pollutant linkages are considered to be present on the site. The proposed development will involve the removal of the old linkspan and construction of a new linkspan with associated marine based works such as piling and dredging beneath the linkspan area. No significant land-based earthworks will be required.

8.2 Recommendations

8.2.1 Unexpected Contamination

During construction works, should unexpected contamination be encountered in soils or groundwater with visual or olfactory signs of contamination, samples of the potentially contaminated material should be obtained and sent for chemical analysis. An updated risk assessment should be completed to assess risks to human health and environmental receptors. Should unacceptable risks be identified then appropriate remedial works will be conducted and agreement sought from the relevant regulatory bodies.

APPENDICES

Appendix A

Envirocheck Report 144469394_1_1

Geology 1:50,000 Maps Legends

Artificial Ground and Landslip

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	MGR	Made Ground (Undivided)	Artificial Deposit	Holocene - Holocene

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	SUPNM	Superficial Theme Not Mapped [For Digital Map Use Only]	Unknown/Unclassified Entry	Not Supplied - Not Supplied
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Flandrian - Flandrian
	TRD	Tidal River Or Creek Deposits	Clay, Silt and Sand	Flandrian - Flandrian
	SAMD	Saltmarsh Deposits	Sand, Silt and Clay	Holocene - Holocene
	GFICI	Glaciofluvial Ice Contact Deposits, Devensian (Irish Sea Ice)	Sand and Gravel	Devensian - Devensian
	GFDIS	Glaciofluvial Deposits, Devensian (Irish Sea Ice)	Sand and Gravel	Devensian - Devensian
	TILLI	Till (Irish Sea Ice)	Diamicton	Pleistocene - Pleistocene
	MBD	Marine Beach Deposits	Sand and Gravel	Quaternary - Quaternary
	HEAD	Head	Clay, Silt, Sand and Gravel	Quaternary - Quaternary
	ALF	Alluvial Fan Deposits	Sand and Gravel	Quaternary - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	PRMU	Penyraber Mudstone Formation	Mudstone	Caradoc - Caradoc
	SAPO	Saddle Point Member	Siltstone	Caradoc - Caradoc
	CAPO	Castle Point Member	Sandstone	Caradoc - Caradoc
	GDV	Goodwick Volcanic Formation	Rhyolite	Abereiddian - Abereiddian
	SHV	Strumble Head Volcanic Formation	Basalt, Lava-Pillowed	Abereiddian - Abereiddian
	PMV	Porth Maen Melyn Volcanic Formation	Rhyolite	Abereiddian - Abereiddian
	GDV	Goodwick Volcanic Formation	Sandstone	Abereiddian - Abereiddian
	FIV	Fishguard Volcanic Group	Tuff	Abereiddian - Abereiddian
	ABM	Aber Mawr Shale Formation	Mudstone	Abereiddian - Arenig
	ABM	Aber Mawr Shale Formation	Rhyolite	Abereiddian - Arenig
	UIIO	Unnamed Igneous Intrusion, Ordovician	Microgabbro	Ordovician - Ordovician
		Faults		

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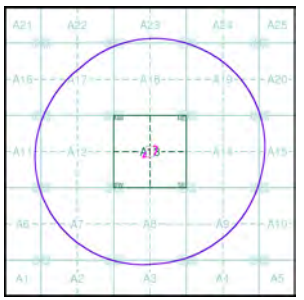
Geology 1:50,000 Maps

This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps.
The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

Geology 1:50,000 Maps Coverage

Map ID:	**1**
Map Sheet No:	**210**
Map Name:	**Fishguard**
Map Date:	**2010**
Bedrock Geology:	**Available**
Superficial Geology:	**Available**
Artificial Geology:	**Available**
Faults:	**Not Supplied**
Landslip:	**Available**
Rock Segments:	**Not Supplied**

Geology 1:50,000 Maps - Slice A



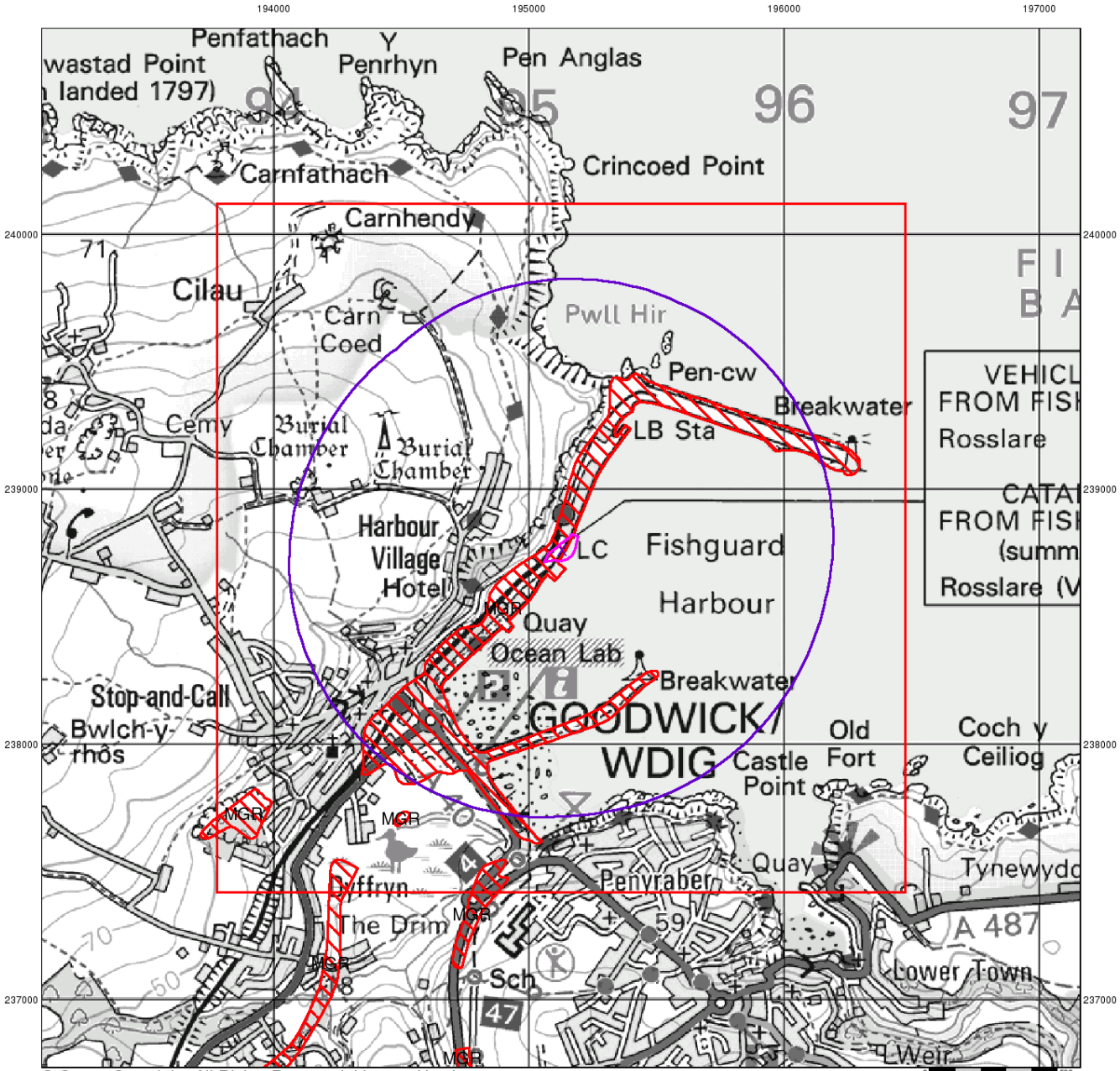
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Order Number:	144469394_1_1
Customer Reference:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Search Buffer (m):	1000

Site Details:

Site at, Fishguard Harbour, Pembrokeshire

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Artificial Ground and Landslip

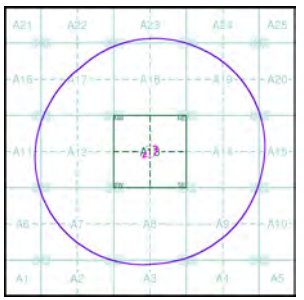
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions and unstable ground.

Artificial ground includes:

- Made ground - man-made deposits such as embankments and spoil heaps on the natural ground surface.
- Worked ground - areas where the ground has been cut away such as quarries and road cuttings.
- Infilled ground - areas where the ground has been cut away then wholly or partially backfilled.
- Landscaped ground - areas where the surface has been reshaped.
- Disturbed ground - areas of ill-defined shallow or near surface mineral workings where it is impracticable to map made and worked ground separately.

Mass movement (landslip) deposits on BGS geological maps are primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground. The dataset also includes foundered strata, where the ground has collapsed due to subsidence.

Artificial Ground and Landslip Map - Slice A



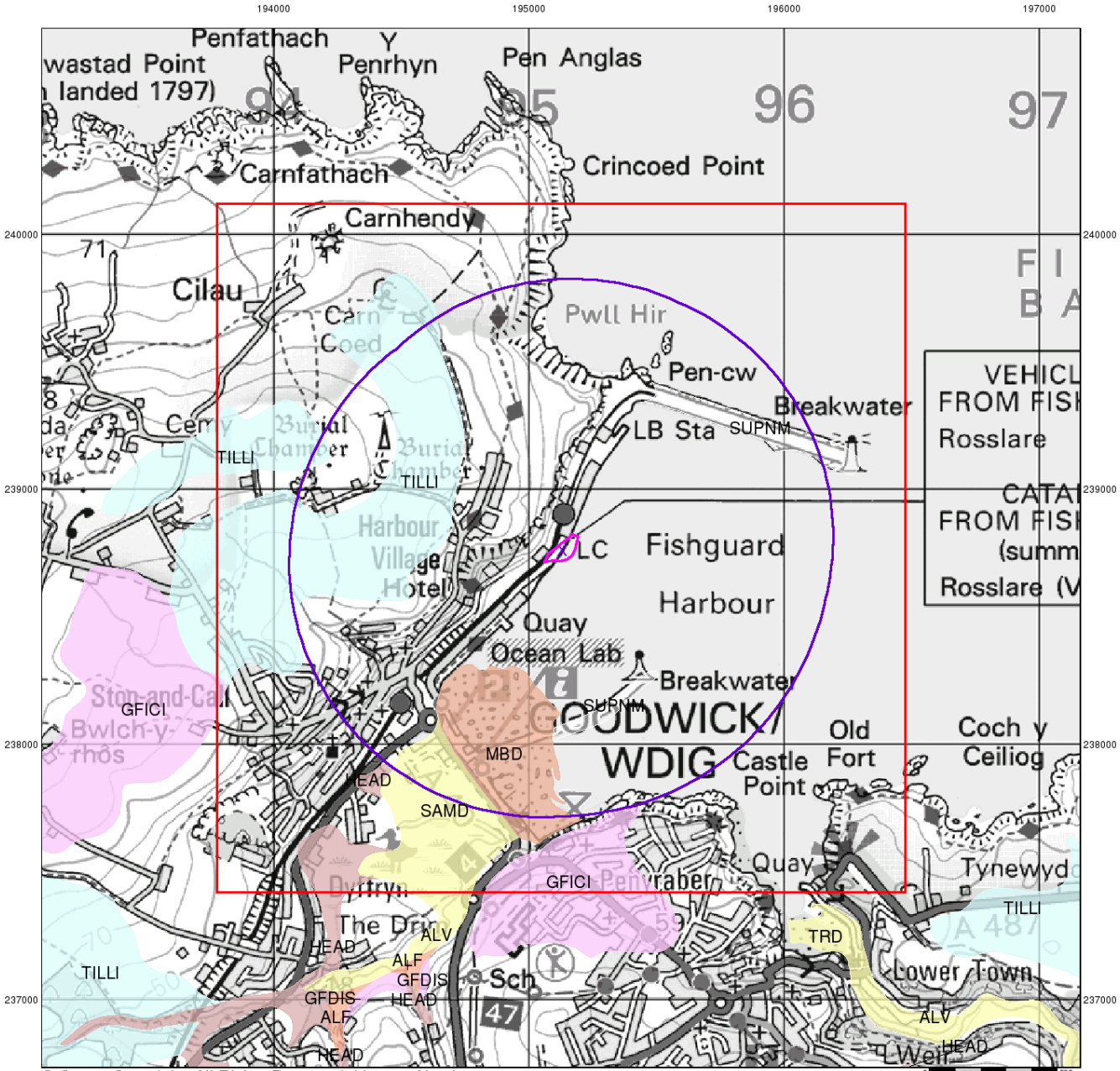
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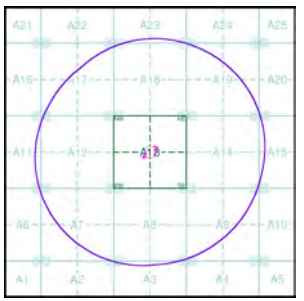
Superficial Geology

Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.

Superficial Geology Map - Slice A



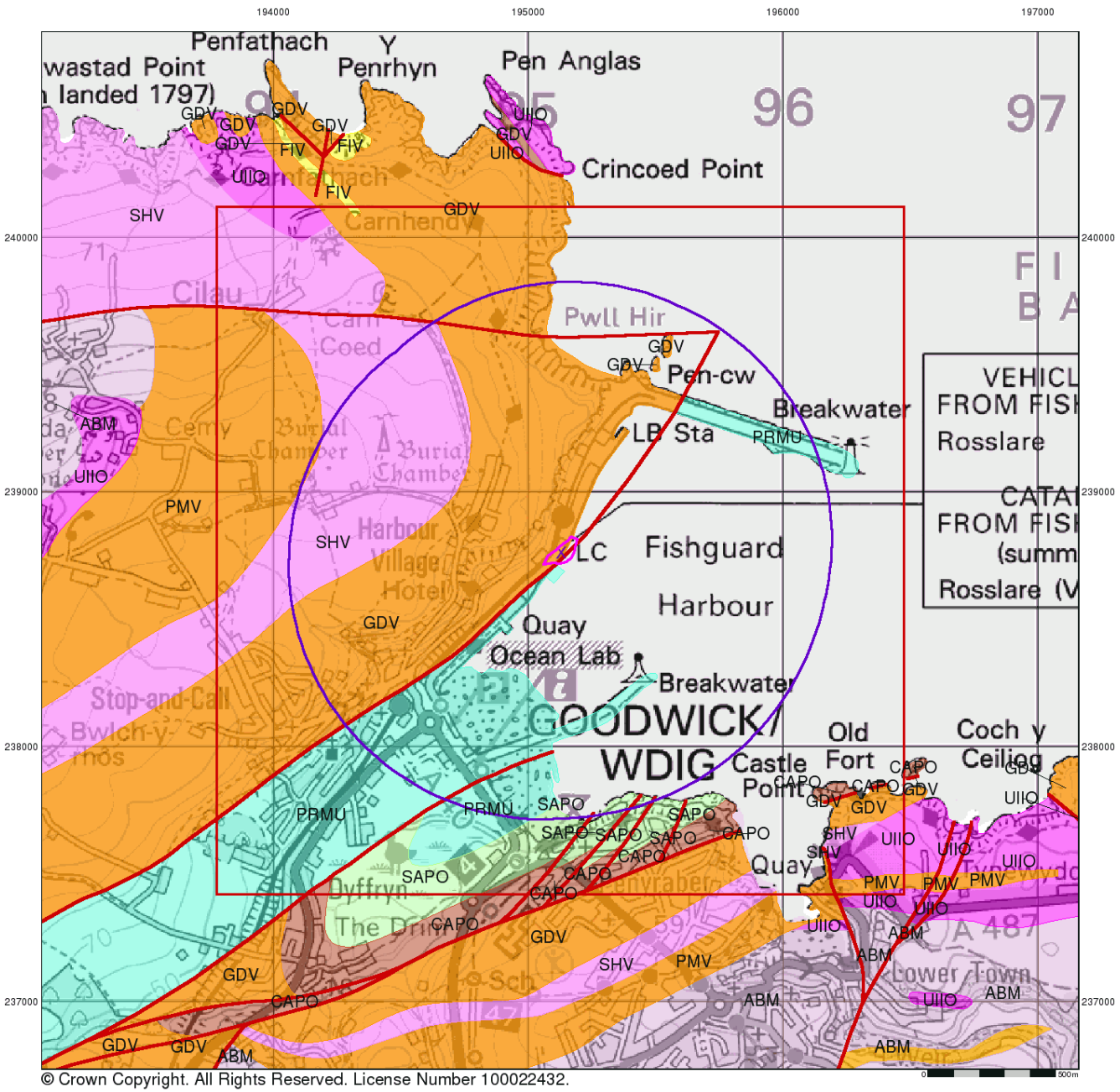
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Bedrock and Faults

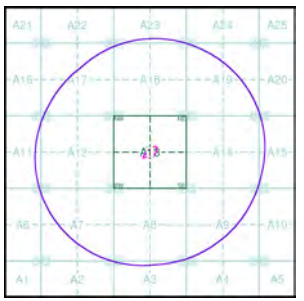
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults (e.g. normal, thrust), and thin beds mapped as lines (e.g. coal seam, gypsum bed). Some of these are linked to other particular 1:50,000 Geology datasets, for example, coal seams are part of the bedrock sequence, most faults and mineral veins primarily affect the bedrock but cut across the strata and post date its deposition.

Bedrock and Faults Map - Slice A



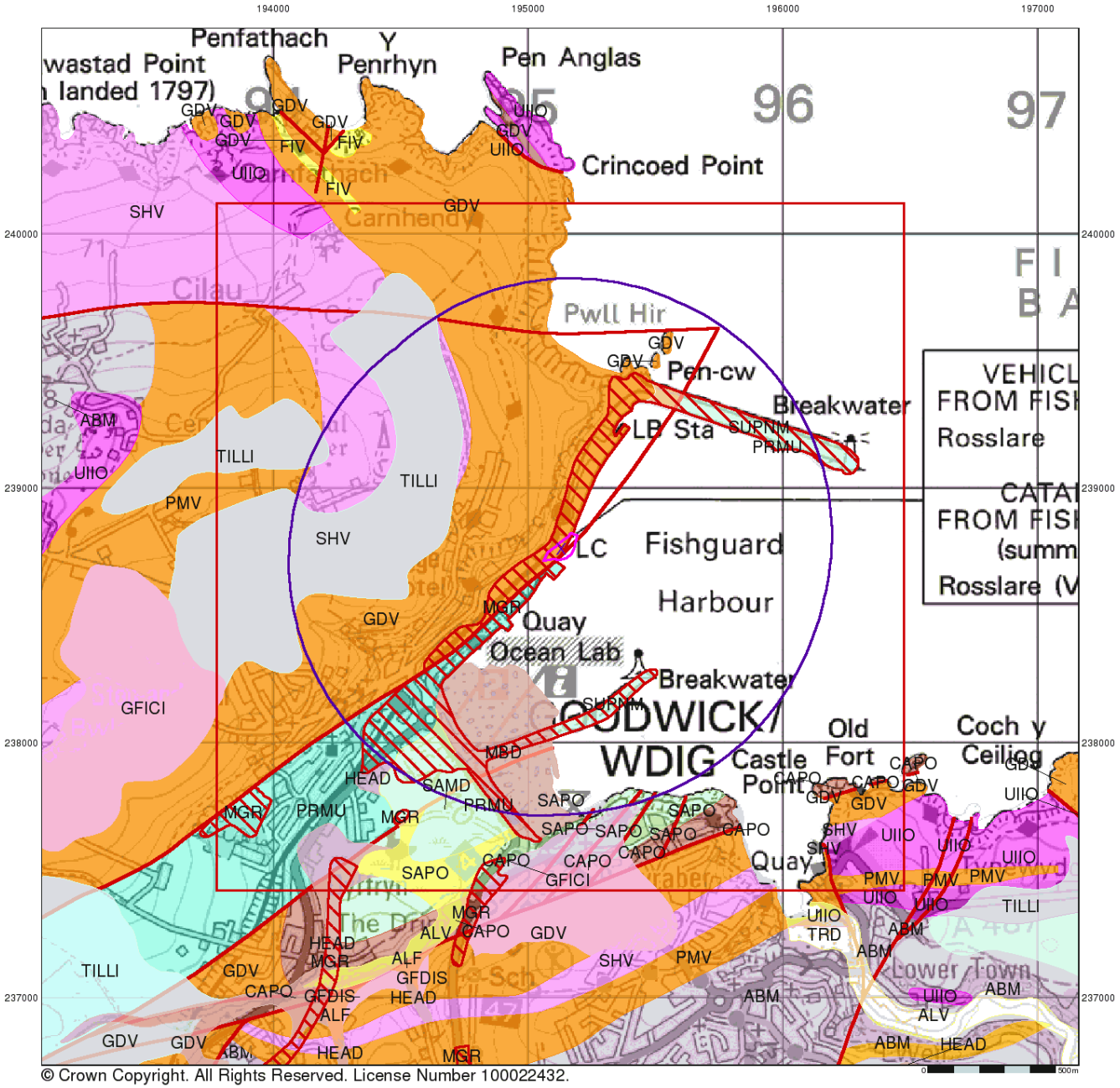
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Combined Surface Geology

The Combined Surface Geology map combines all the previous maps into one combined geological overview of your site.

Please consult the legends to the previous maps to interpret the Combined "Surface Geology" map.

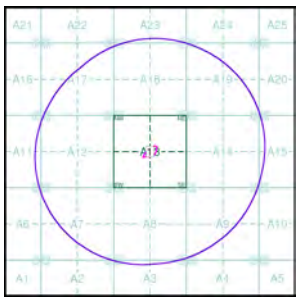
Additional Information

More information on 1:50,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using the LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock Units'. This database can be accessed by following the 'Information and Data' link on the BGS website.

Contact

British Geological Survey
Kingsley Dunham Centre
Keyworth
Nottingham
NG12 5GG
Telephone: 0115 936 3143
Fax: 0115 936 3276
email: enquiries@bgs.ac.uk
website: www.bgs.ac.uk

Combined Geology Map - Slice A



N

Order Details:

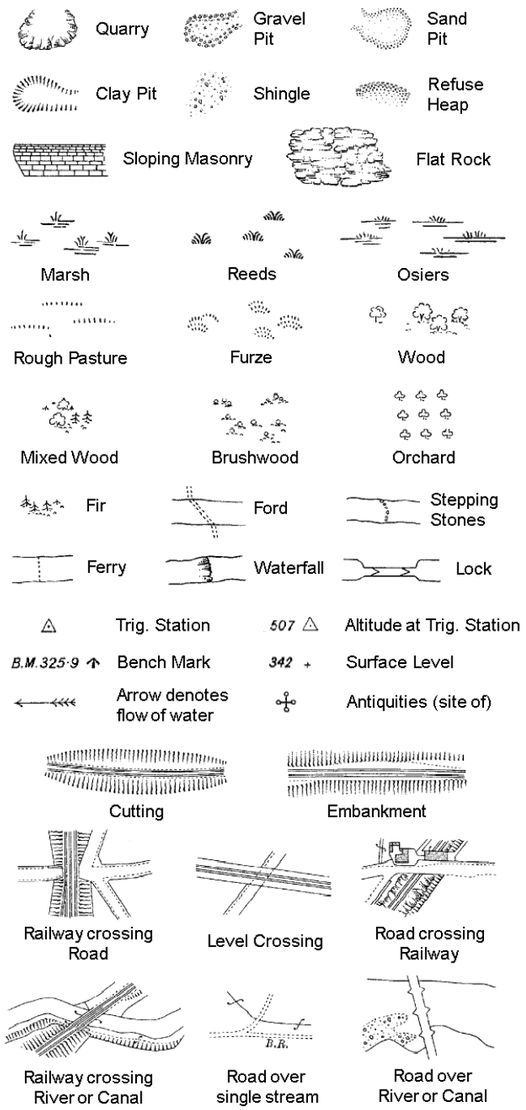
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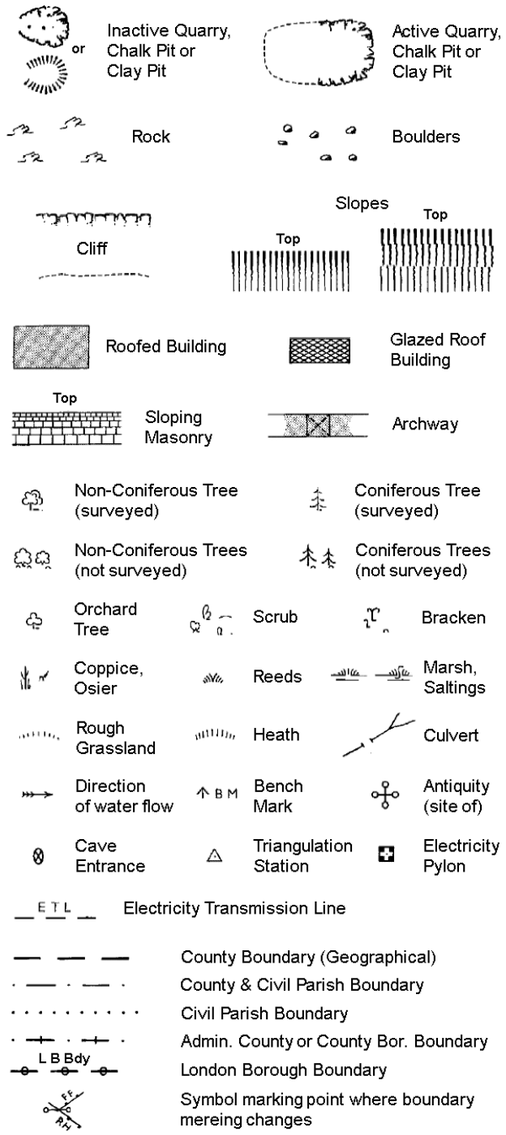
Historical Mapping Legends

Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



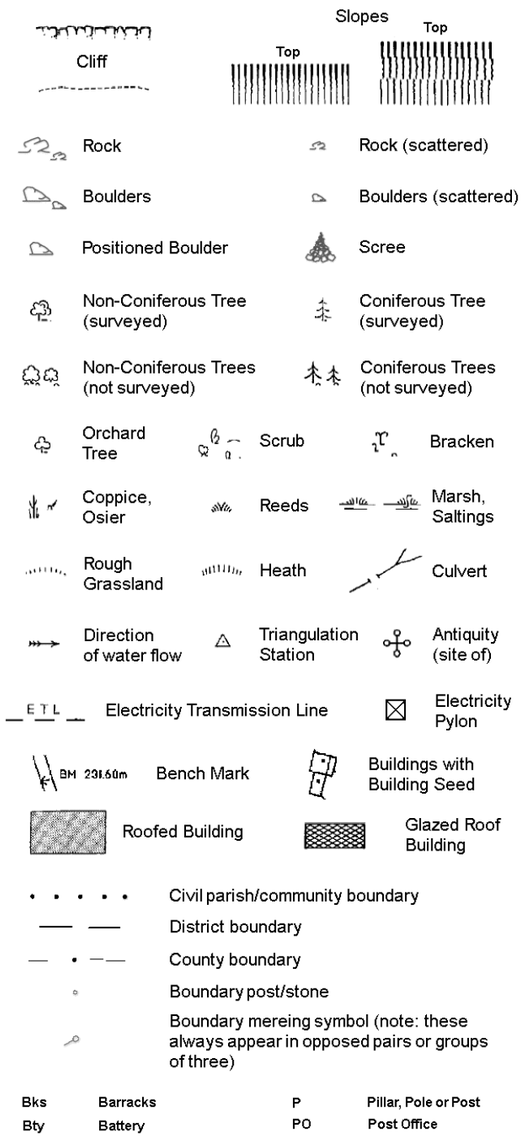
B P B S	Boundary Post or Stone	P.C.B	Police Call Box
B.R.	Bridle Road	P	Pump
E.P	Electricity Pylon	S.P	Signal Post
F.B.	Foot Bridge	St.	Sluice
F.P.	Foot Path	Sp.	Spring
G.P	Guide Post or Board	T.C.B	Telephone Call Box
M.S	Mile Stone	Tr.	Trough
M.P M.R	Mooring Post or Ring	W	Well

Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250



BH	Beer House	P	Pillar, Pole or Post
BP, BS	Boundary Post or Stone	PO	Post Office
Cn, C	Capstan, Crane	PC	Public Convenience
Chy	Chimney	PH	Public House
D Fn	Drinking Fountain	Pp	Pump
El P	Electricity Pillar or Post	SB, S Br	Signal Box or Bridge
FAP	Fire Alarm Pillar	SP, SL	Signal Post or Light
FB	Foot Bridge	Spr	Spring
GP	Guide Post	Tk	Tank or Track
H	Hydrant or Hydraulic	TCB	Telephone Call Box
LC	Level Crossing	TCP	Telephone Call Post
MH	Manhole	Tr	Trough
MP	Mile Post or Mooring Post	Wr Pt, Wr T	Water Point, Water Tap
MS	Mile Stone	W	Well
NTL	Normal Tidal Limit	Wd Pp	Wind Pump

Large-Scale National Grid Data 1:2,500 and 1:1,250



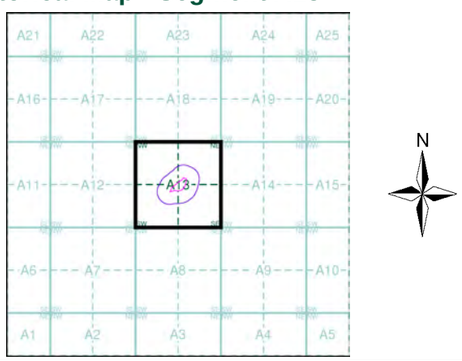
Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cemy	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismtd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station
El P	Electricity Pole, Pillar	SB, S Br	Signal Box or Bridge
El Sub Sta	Electricity Sub Station	SP, SL	Signal Post or Light
FB	Filter Bed	Spr	Spring
Fn / D Fn	Fountain / Drinking Ftn.	Tk	Tank or Track
Gas Gov	Gas Valve Compound	Tr	Trough
GVC	Gas Governer	Wd Pp	Wind Pump
GP	Guide Post	Wr Pt, Wr T	Water Point, Water Tap
MH	Manhole	Wks	Works (building or area)
MP, MS	Mile Post or Mile Stone	W	Well

RPS

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Pembrokeshire	1:2,500	1889	2
Pembrokeshire	1:2,500	1907	3
Pembrokeshire	1:2,500	1937	4
Ordnance Survey Plan	1:2,500	1965	5
Additional SIMs	1:2,500	1965 - 1988	6
Supply of Unpublished Survey Information	1:2,500	1973 - 1975	7
Ordnance Survey Plan	1:2,500	1978	8
Additional SIMs	1:2,500	1989	9
Large-Scale National Grid Data	1:2,500	1994	10
Large-Scale National Grid Data	1:2,500	1995	11
Large-Scale National Grid Data	1:2,500	1996	12
Historical Aerial Photography	1:2,500	2003	13

Historical Map - Segment A13



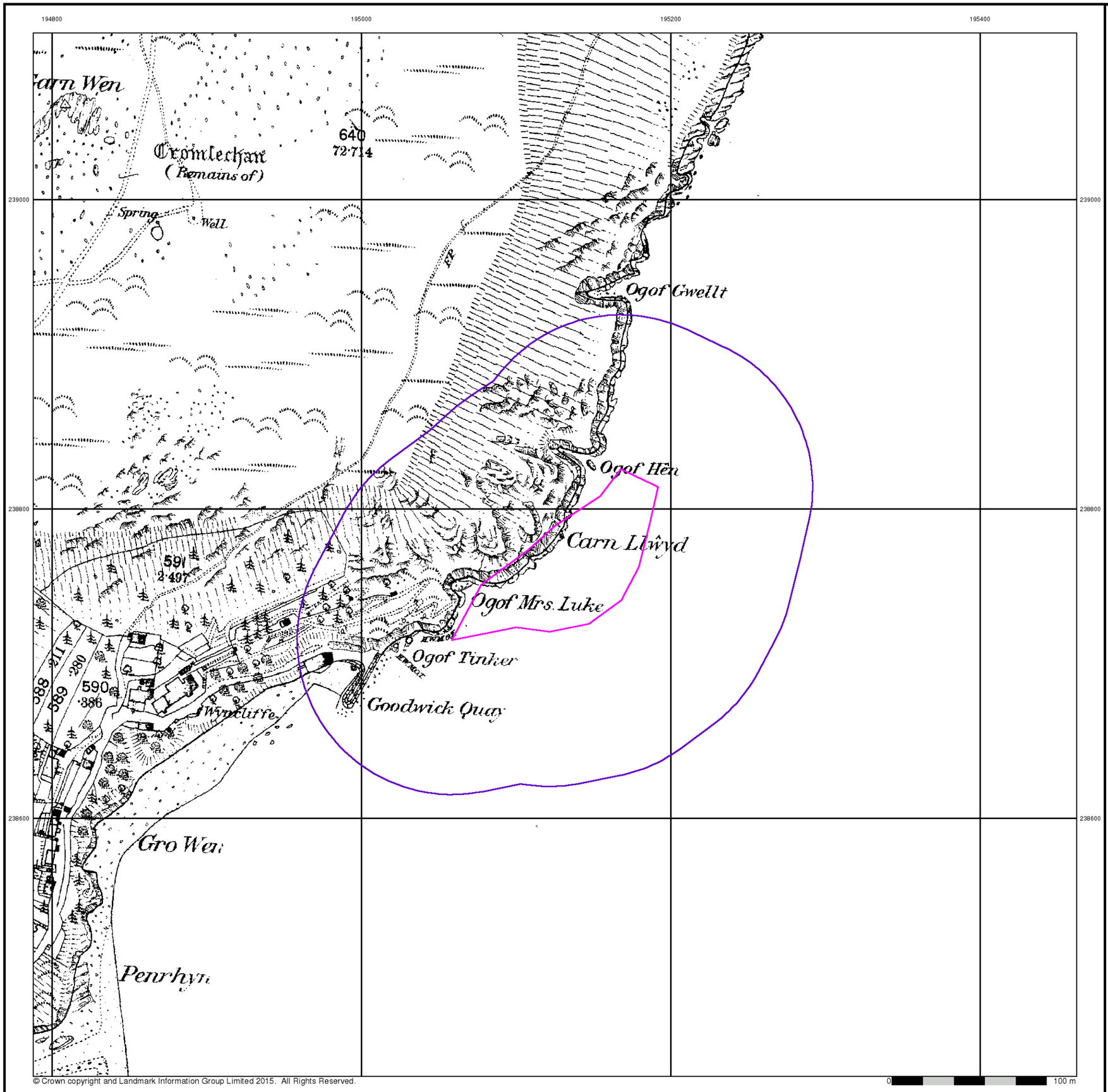
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Slice: A
Site Area (Ha): 0.71
Search Buffer (m): 100

Site Details

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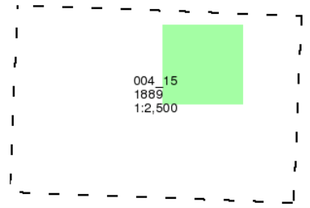
Pembrokeshire

Published 1889

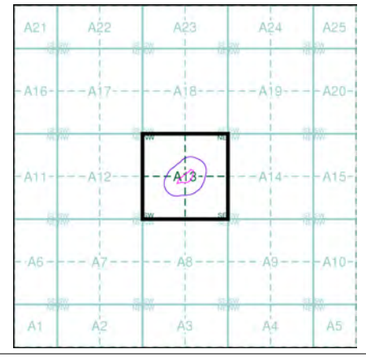
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



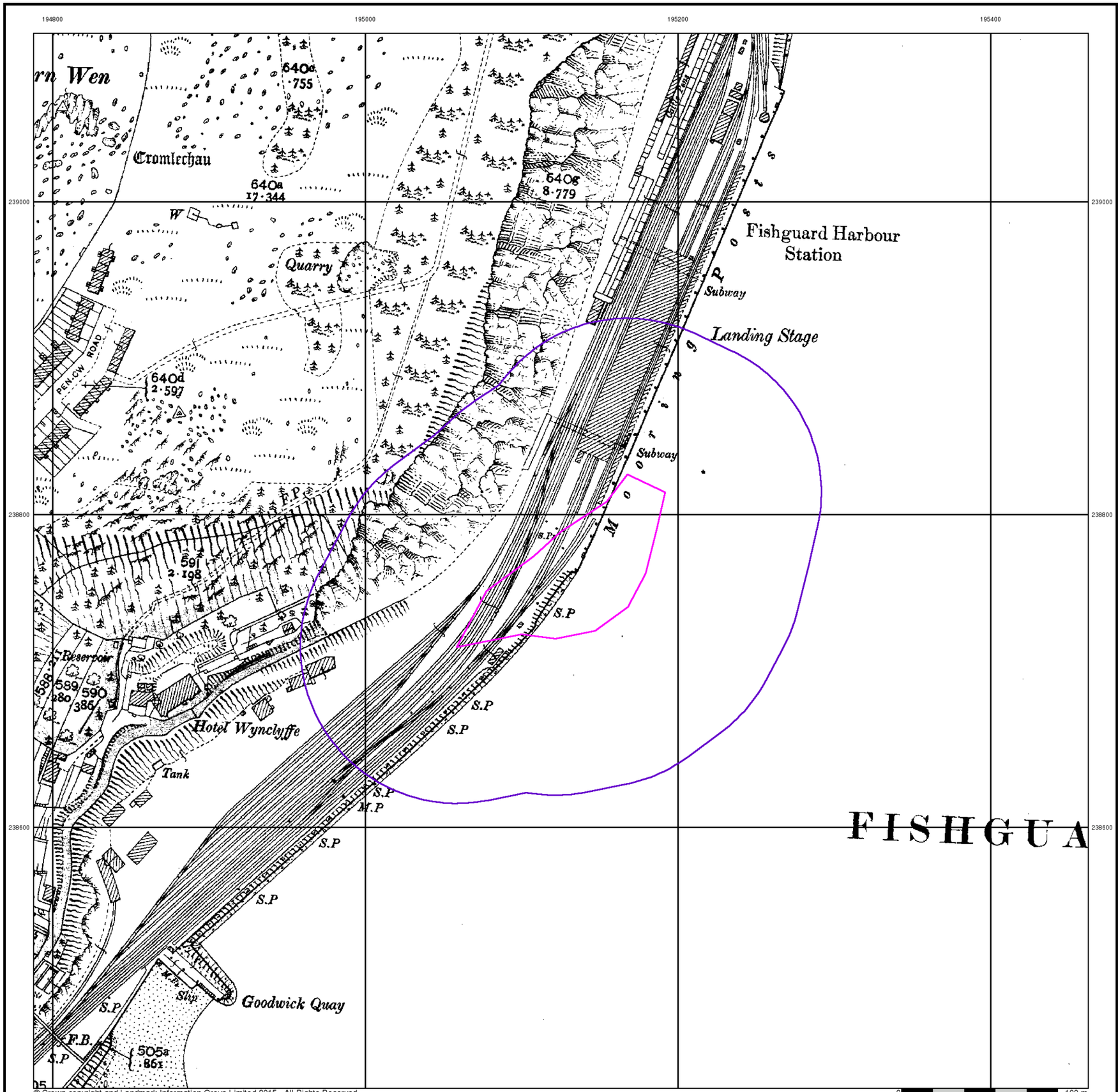
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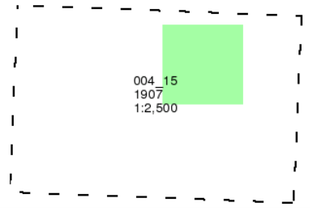
Pembrokeshire

Published 1907

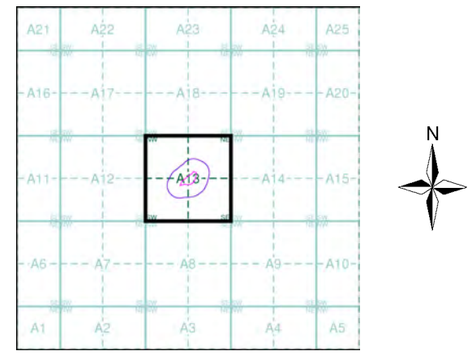
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Map Name(s) and Date(s)



Historical Map - Segment A13



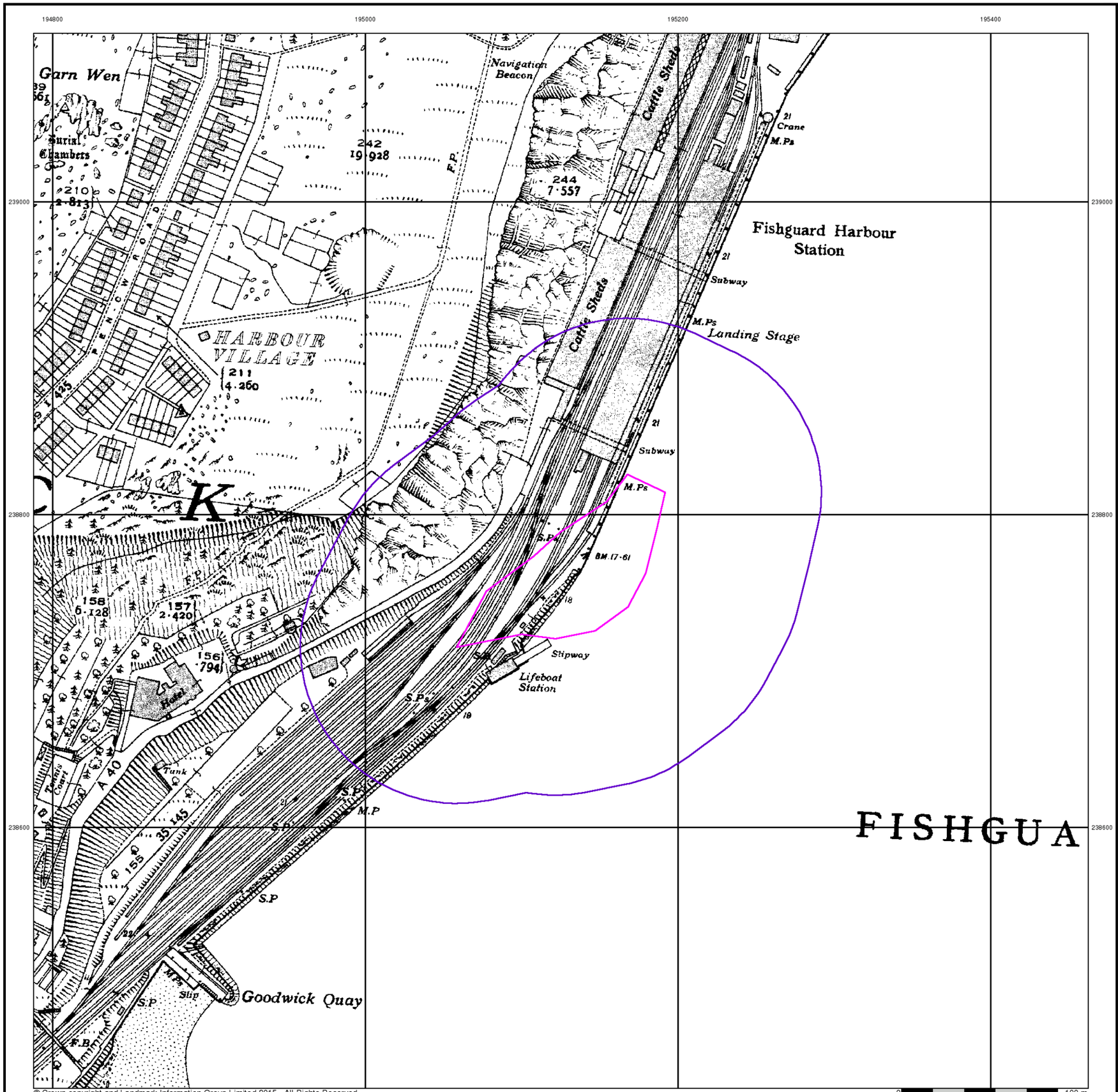
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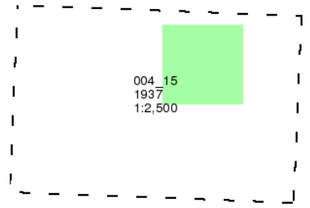
Pembrokeshire

Published 1937

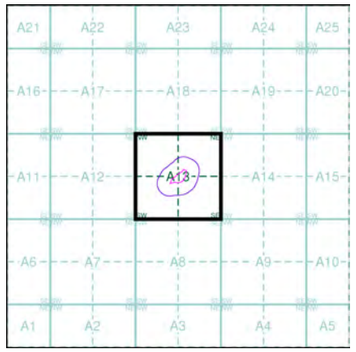
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Map Name(s) and Date(s)



Historical Map - Segment A13



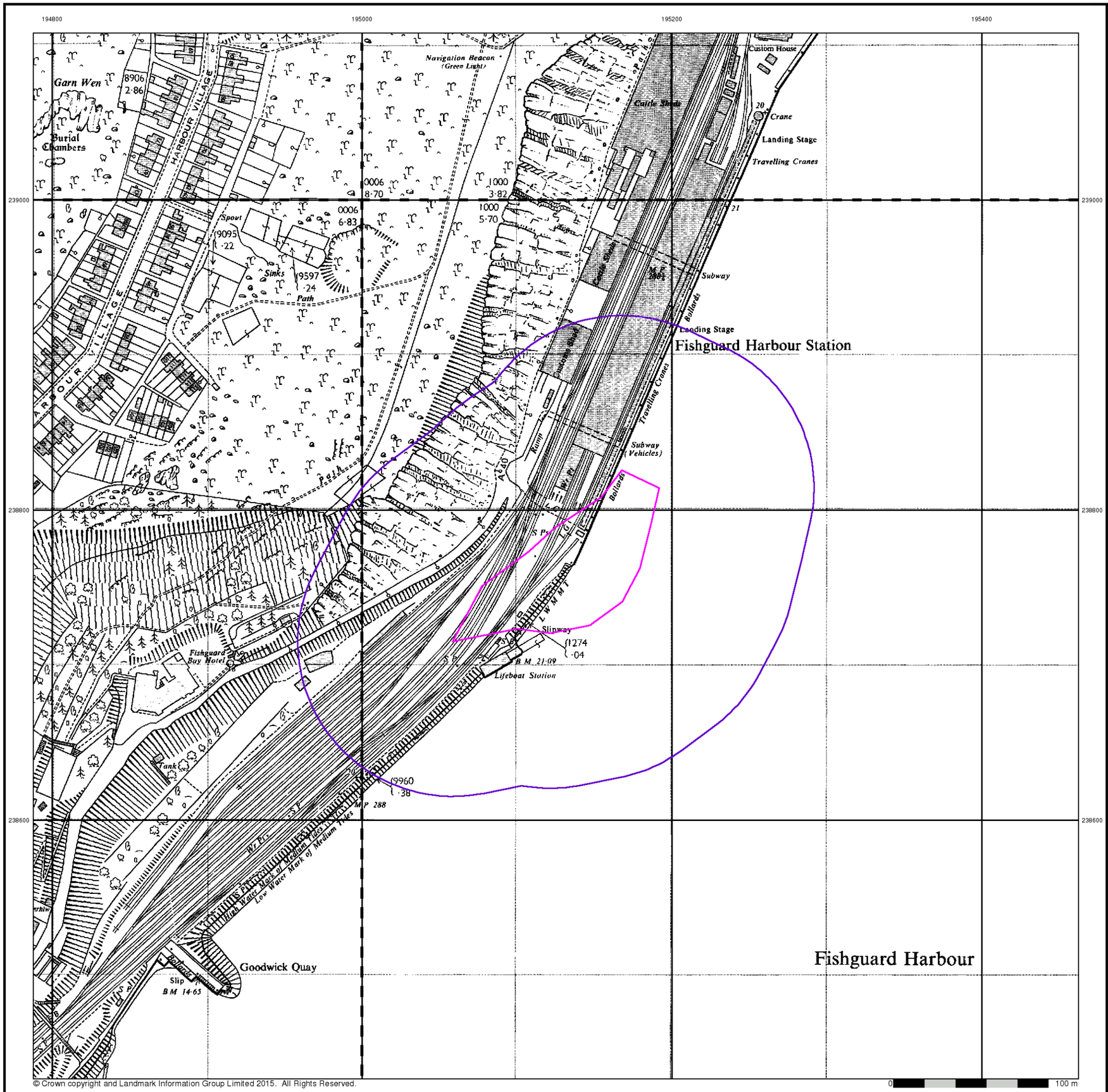
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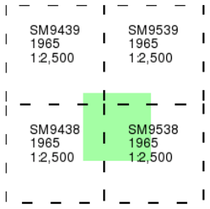
Ordnance Survey Plan

Published 1965

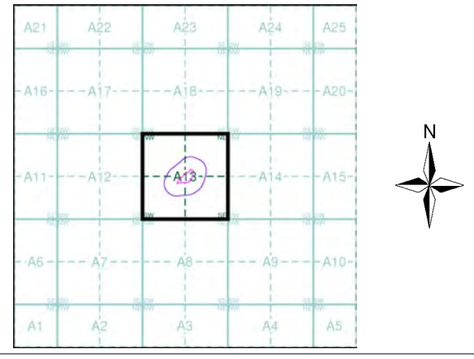
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Map Name(s) and Date(s)



Historical Map - Segment A13



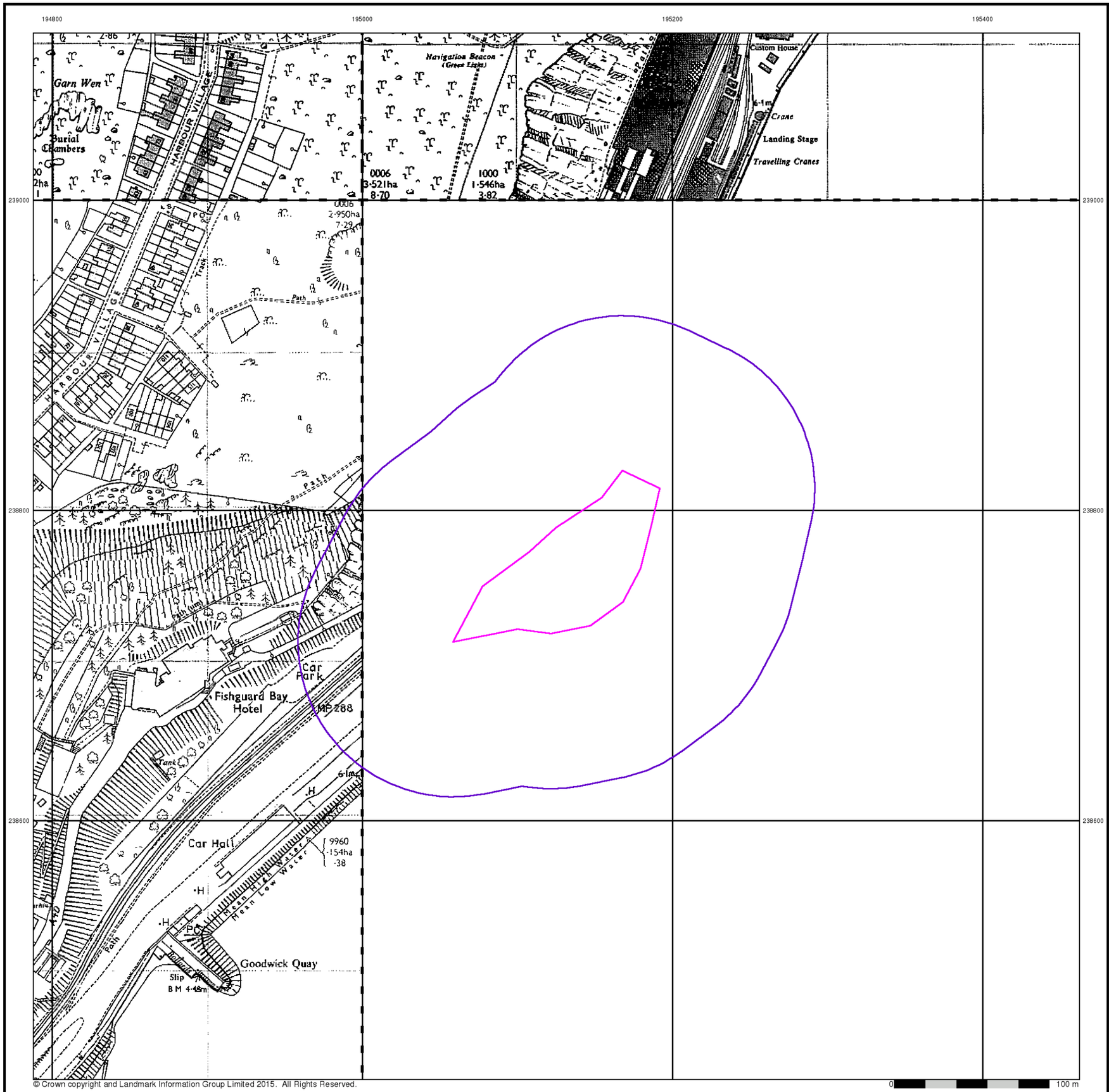
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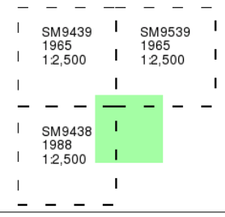
Additional SIMs

Published 1965 - 1988

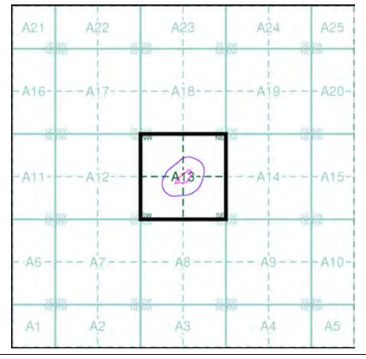
Source map scale - 1:2,500

The SIM cards (Ordnance Survey's `Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



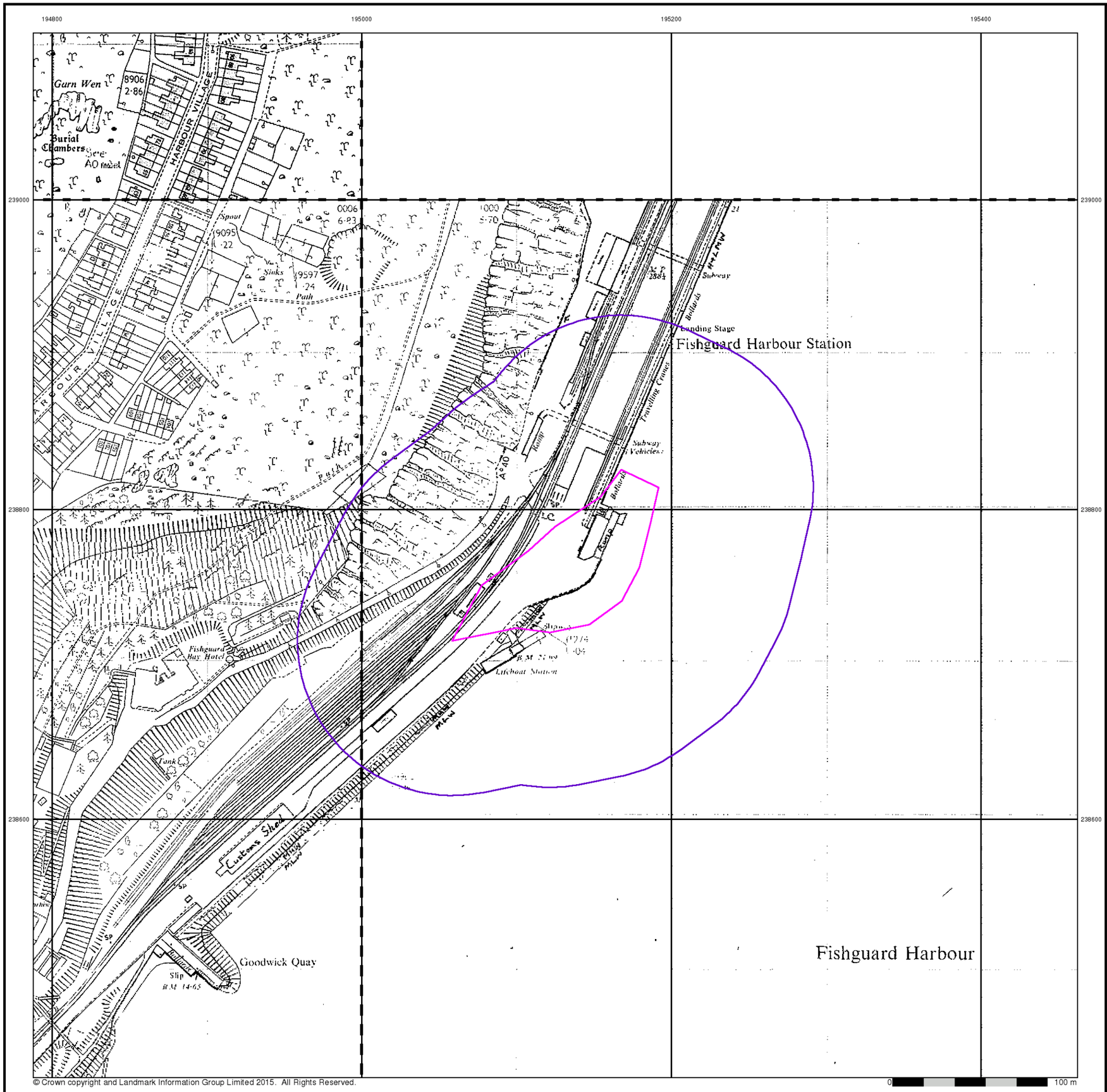
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RPS

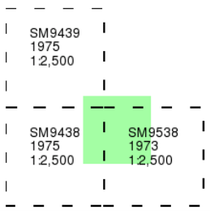
Supply of Unpublished Survey Information

Published 1973 - 1975

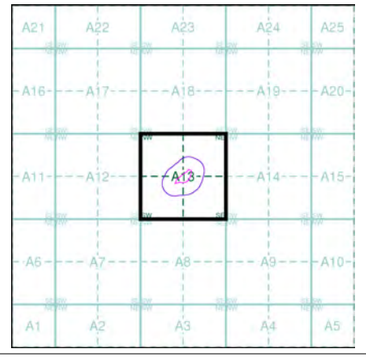
Source map scale - 1:2,500

SUSI maps (Supply of Unpublished Survey Information) were produced between 1972 and 1977, mainly for internal use at Ordnance Survey. These were more of a `work-in-progress' plan as they showed updates of individual areas on a map. These maps were unpublished, and they do not represent a single moment in time. They were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



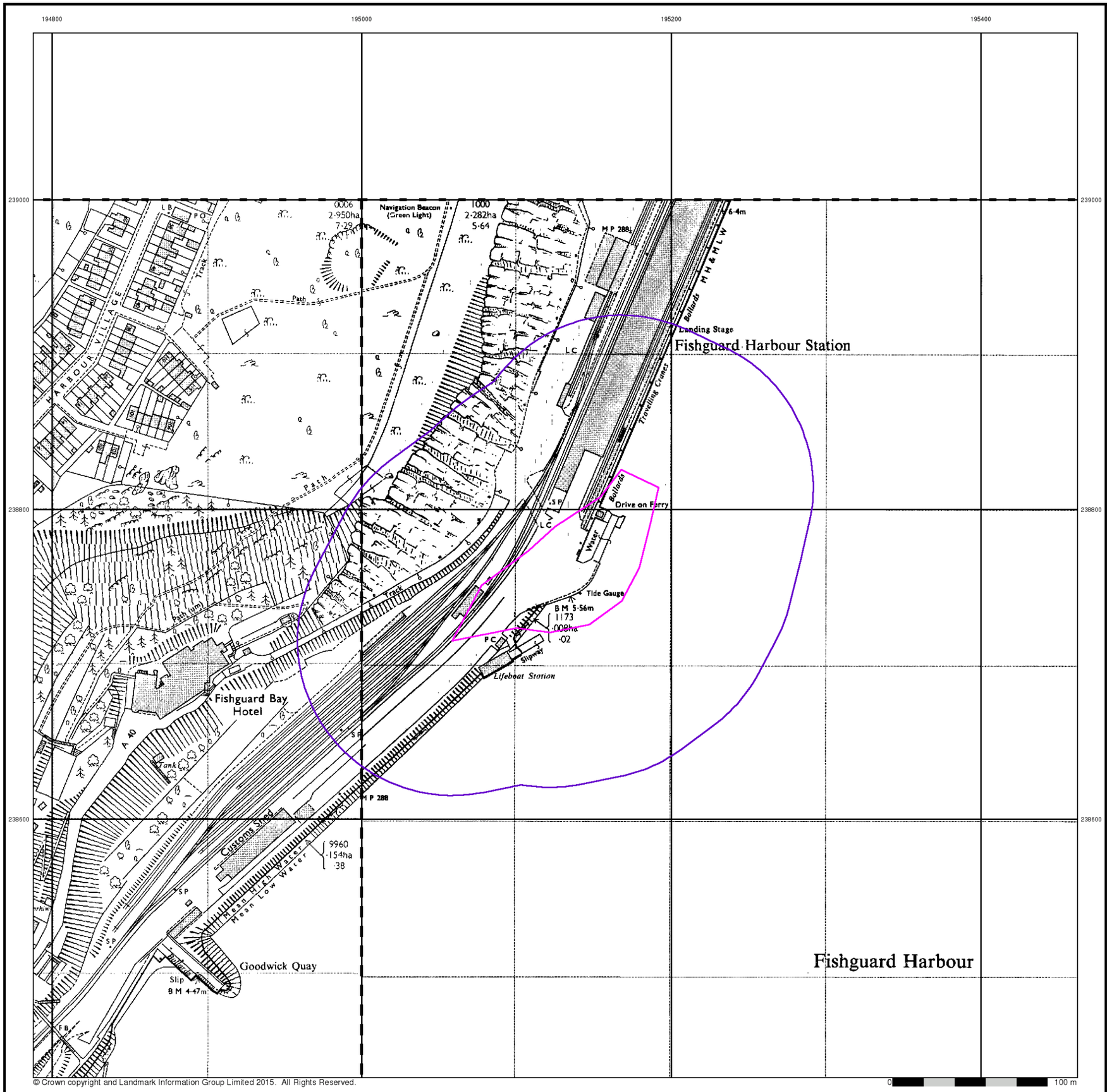
Order Details

Order Number:	144469394_1_1
Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Search Buffer (m):	100

Site Details

Site at, Fishguard Harbour, Pembrokeshire

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RPS

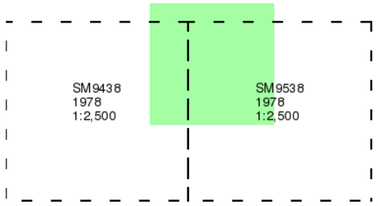
Ordnance Survey Plan

Published 1978

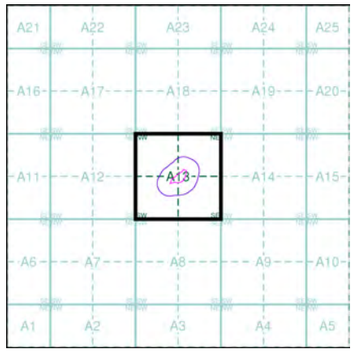
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



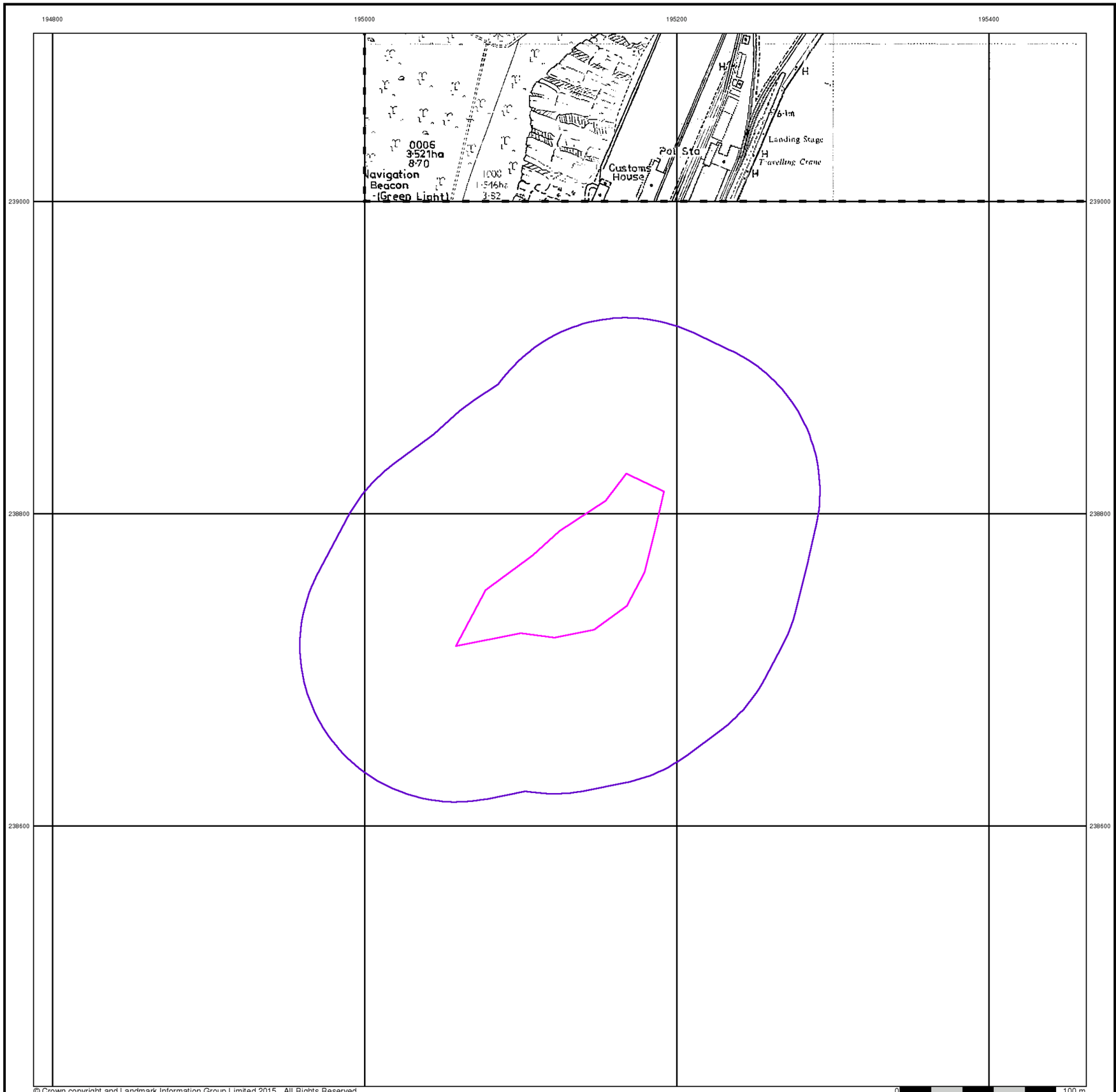
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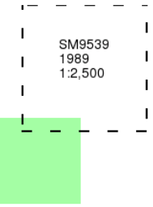
Additional SIMs

Published 1989

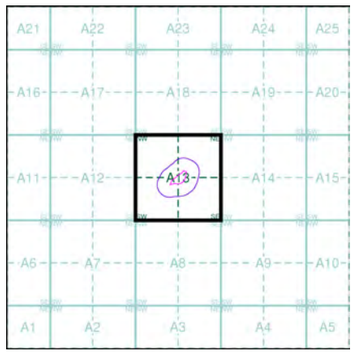
Source map scale - 1:2,500

The SIM cards (Ordnance Survey's `Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



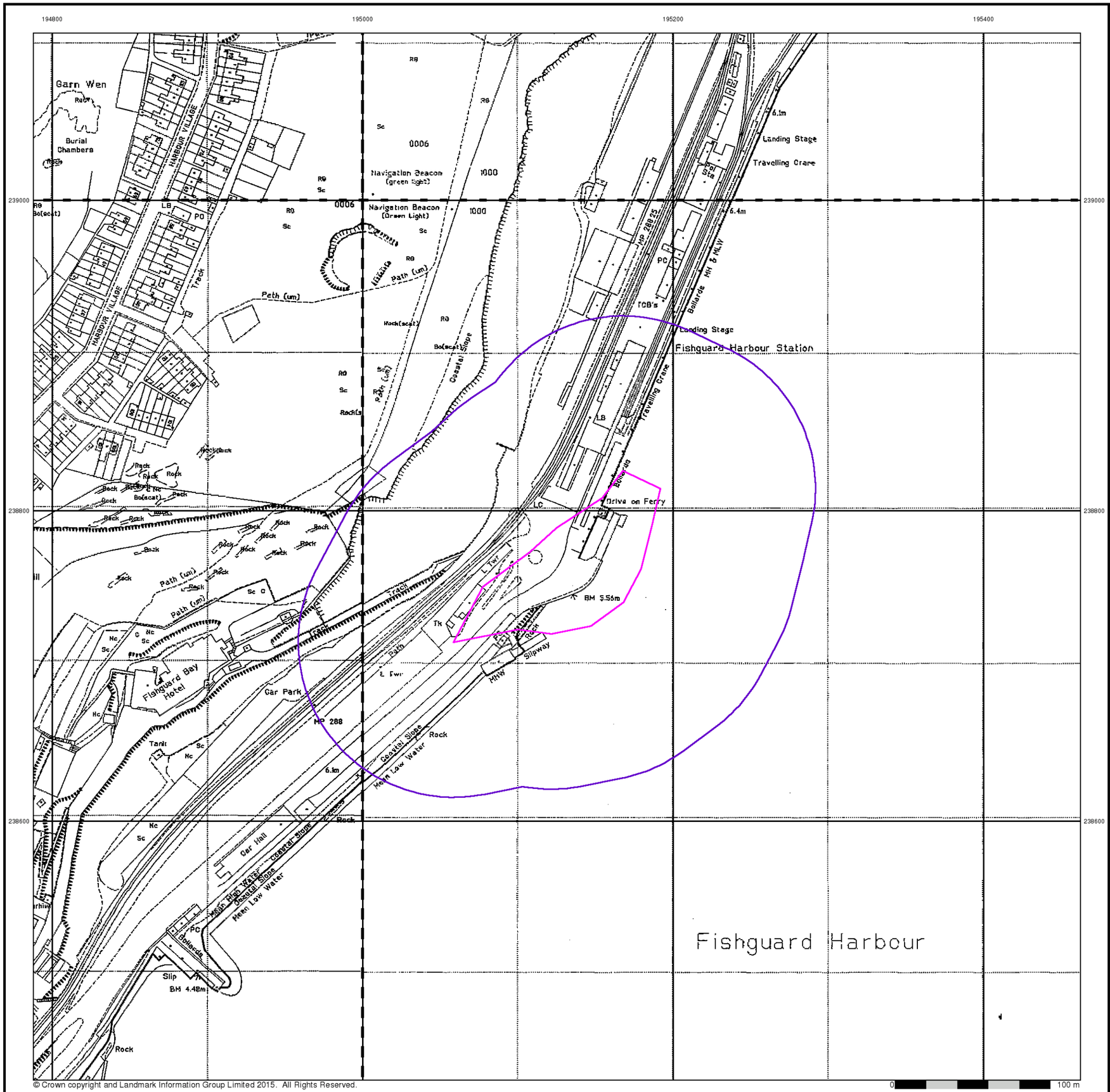
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RPS

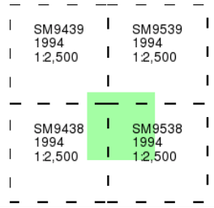
Large-Scale National Grid Data

Published 1994

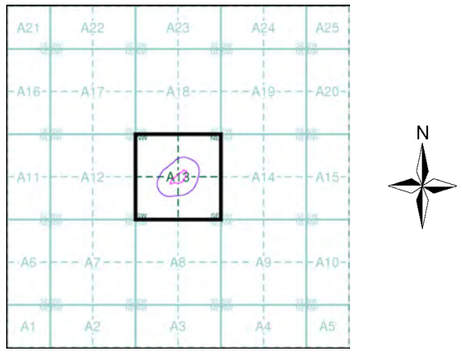
Source map scale - 1:2,500

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

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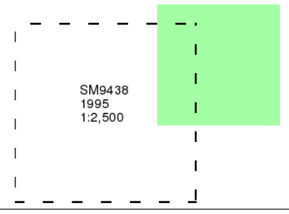
Large-Scale National Grid Data

Published 1995

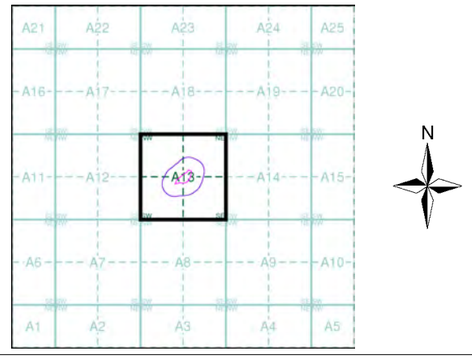
Source map scale - 1:2,500

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

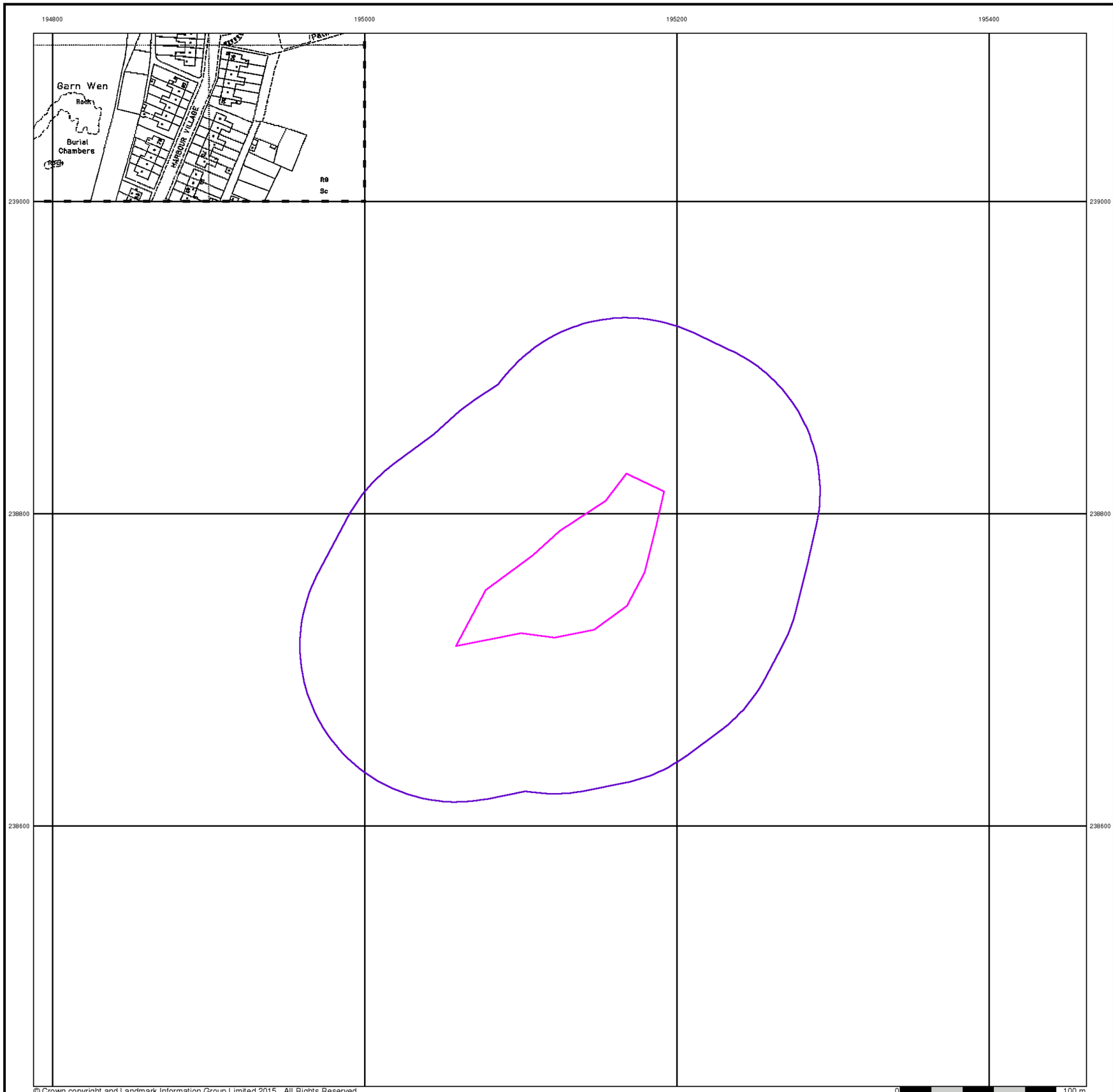
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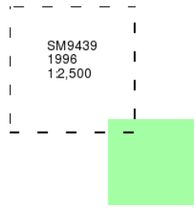
Large-Scale National Grid Data

Published 1996

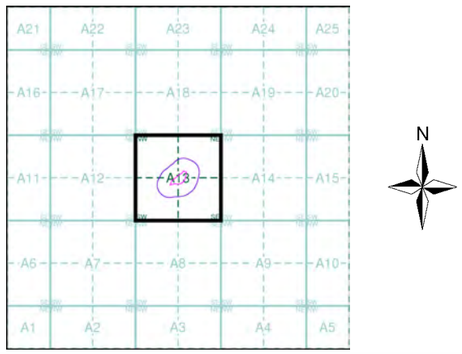
Source map scale - 1:2,500

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



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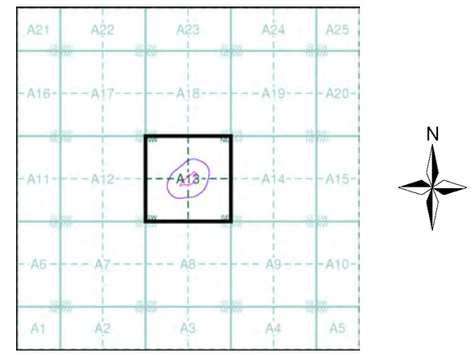
RPS

Historical Aerial Photography

Published 2003

This aerial photography was produced by Getmapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain

Historical Aerial Photography - Segment A13



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Order Number:	144469394_1_1
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Site Details

Site at, Fishguard Harbour, Pembrokeshire

Historical Mapping Legends

Ordnance Survey County Series 1:10,560

Gravel Pit
Sand Pit
Other Pits
Quarry
Shingle
Orchard
Osiers
Reeds
Marsh
Mixed Wood
Deciduous
Brushwood
Fir
Furze
Rough Pasture
Arrow denotes flow of water
Trigonometrical Station
Site of Antiquities
Bench Mark
Pump, Guide Post, Signal Post
Well, Spring, Boundary Post
·285 Surface Level
Sketched Contour
Instrumental Contour
Main Roads
Fenced
Un-Fenced
Minor Roads
Fenced
Un-Fenced
Sunken Road
Raised Road
Road over Railway
Railway over River
Railway over Road
Level Crossing
Road over River or Canal
Road over Stream
Road over Stream
County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
Co. Boro. Bdy. County Borough Boundary (England)
Co. Burgh Bdy. County Burgh Boundary (Scotland)
R.D. Bdy. Rural District Boundary
Civil Parish Boundary

Ordnance Survey Plan 1:10,000

Chalk Pit, Clay Pit or Quarry
Gravel Pit
Sand Pit
Disused Pit or Quarry
Refuse or Slag Heap
Lake, Loch or Pond
Dunes
Boulders
Coniferous Trees
Non-Coniferous Trees
Orchard
Scrub
Coppice
Bracken
Heath
Rough Grassland
Marsh
Reeds
Saltings
Building
Direction of Flow of Water
Shingle
Sand
Glasshouse
Pylon
Electricity Transmission Line
Pole
Sloping Masonry
Cutting
Embankment
Standard Gauge Multiple Track
Road Under
Road Over
Level Crossing
Foot Bridge
Standard Gauge Single Track
Siding, Tramway or Mineral Line
Narrow Gauge
Geographical County
Administrative County, County Borough or County of City
Municipal Borough, Urban or Rural District, Burgh or District Council
Borough, Burgh or County Constituency
Shown only when not coincident with other boundaries
Civil Parish
Shown alternately when coincidence of boundaries occurs

BP, BS	Boundary Post or Stone	Pol Sta	Police Station
Ch	Church	PO	Post Office
CH	Club House	PC	Public Convenience
F E Sta	Fire Engine Station	PH	Public House
FB	Foot Bridge	SB	Signal Box
Fn	Fountain	Spr	Spring
GP	Guide Post	TCB	Telephone Call Box
MP	Mile Post	TCP	Telephone Call Post
MS	Mile Stone	W	Well

1:10,000 Raster Mapping

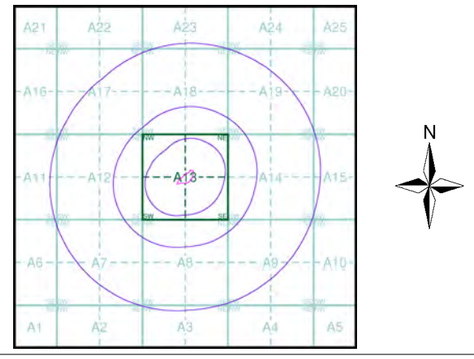
Gravel Pit
Refuse tip or slag heap
Rock
Rock (scattered)
Boulders
Boulders (scattered)
Shingle
Mud
Sand
Sand Pit
Slopes
Top of cliff
General detail
Underground detail
Overhead detail
Narrow gauge railway
Multi-track railway
Single track railway
County boundary (England only)
Civil, parish or community boundary
District, Unitary, Metropolitan, London Borough boundary
Constituency boundary
Area of wooded vegetation
Non-coniferous trees
Non-coniferous trees (scattered)
Coniferous trees
Coniferous trees (scattered)
Positioned tree
Orchard
Coppice or Osiers
Rough Grassland
Heath
Scrub
Marsh, Salt Marsh or Reeds
Water feature
Flow arrows
MHW(S) Mean high water (springs)
MLW(S) Mean low water (springs)
Telephone line (where shown)
Electricity transmission line (with poles)
BM 123.45 m Bench mark (where shown)
Triangulation station
Point feature (e.g. Guide Post or Mile Stone)
Pylon, flare stack or lighting tower
Site of (antiquity)
Glasshouse
General Building
Important Building

RPS

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Pembrokeshire	1:10,560	1888	2
Pembrokeshire	1:10,560	1908	3
Pembrokeshire	1:10,560	1938	4
Pembrokeshire	1:10,560	1953	5
Ordnance Survey Plan	1:10,000	1964	6
Ordnance Survey Plan	1:10,000	1964	7
Ordnance Survey Plan	1:10,000	1974 - 1977	8
10K Raster Mapping	1:10,000	2000	9
10K Raster Mapping	1:10,000	2006	10
VectorMap Local	1:10,000	2017	11

Historical Map - Slice A



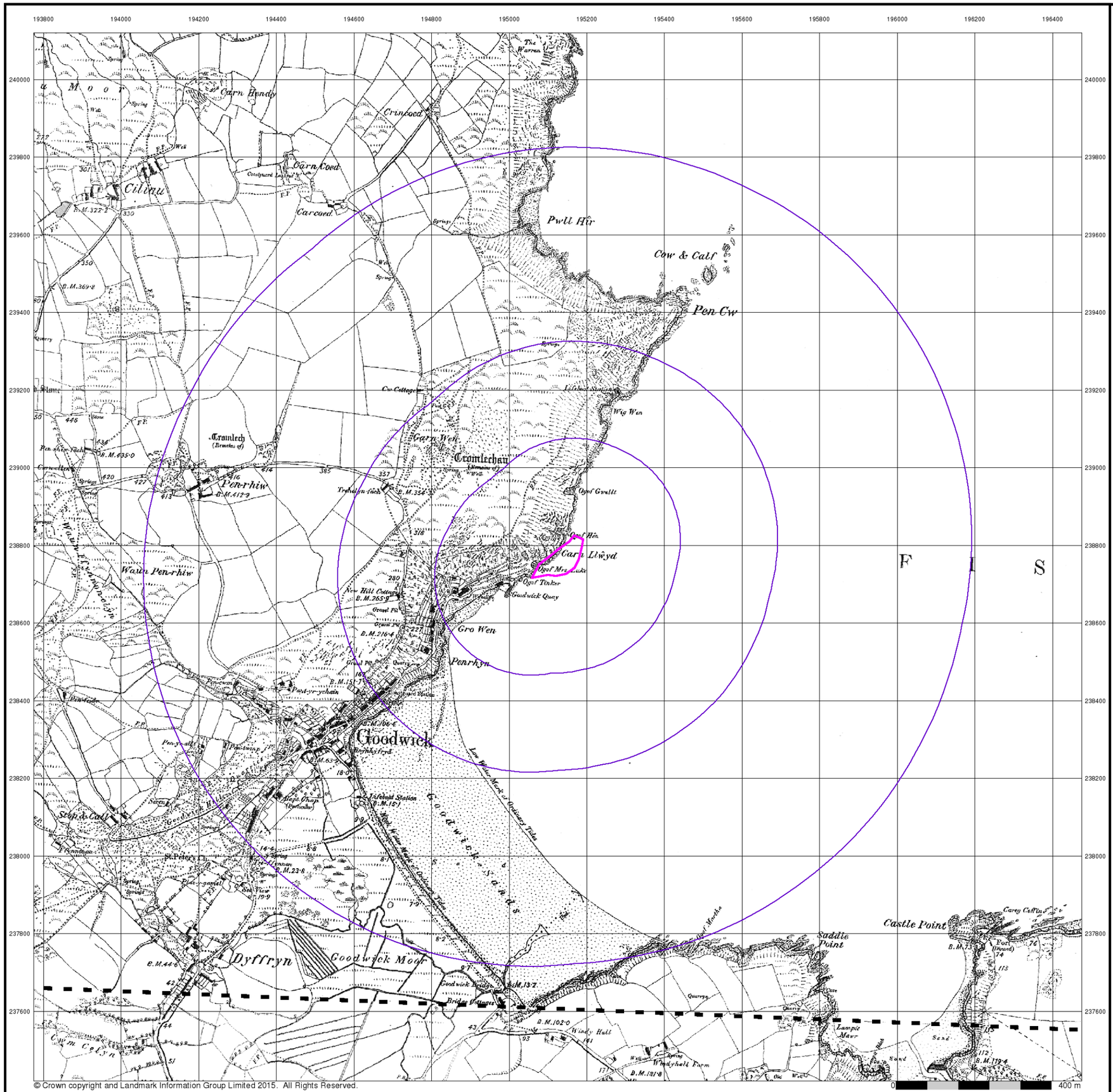
Order Details

Order Number: 144469394_1_1
Customer Ref: IBR1023
National Grid Reference: 195130, 238760
Slice: A
Site Area (Ha): 0.71
Search Buffer (m): 1000

Site Details

Site at, Fishguard Harbour, Pembrokeshire

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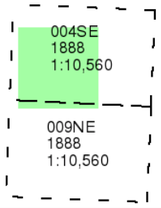
Pembrokeshire

Published 1888

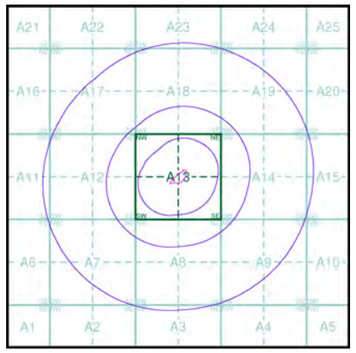
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

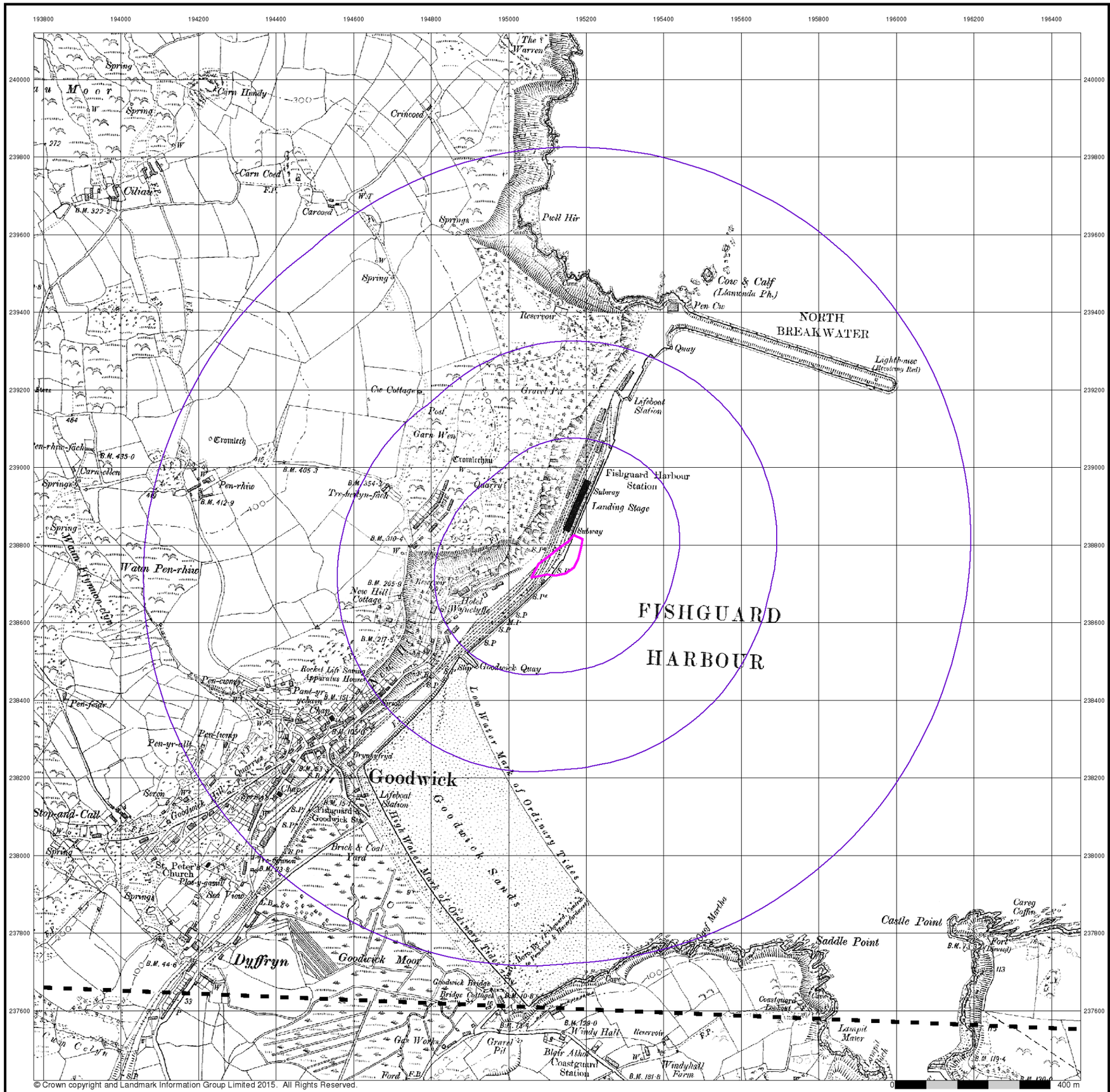
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RPS

Pembrokeshire

Published 1908

Source map scale - 1:10,560

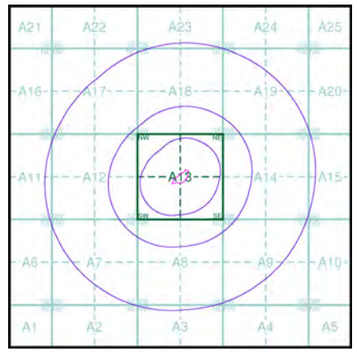
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Map Name(s) and Date(s)

004SE
1908
1:10,560

009NE
1908
1:10,560

Historical Map - Slice A



N

Order Details

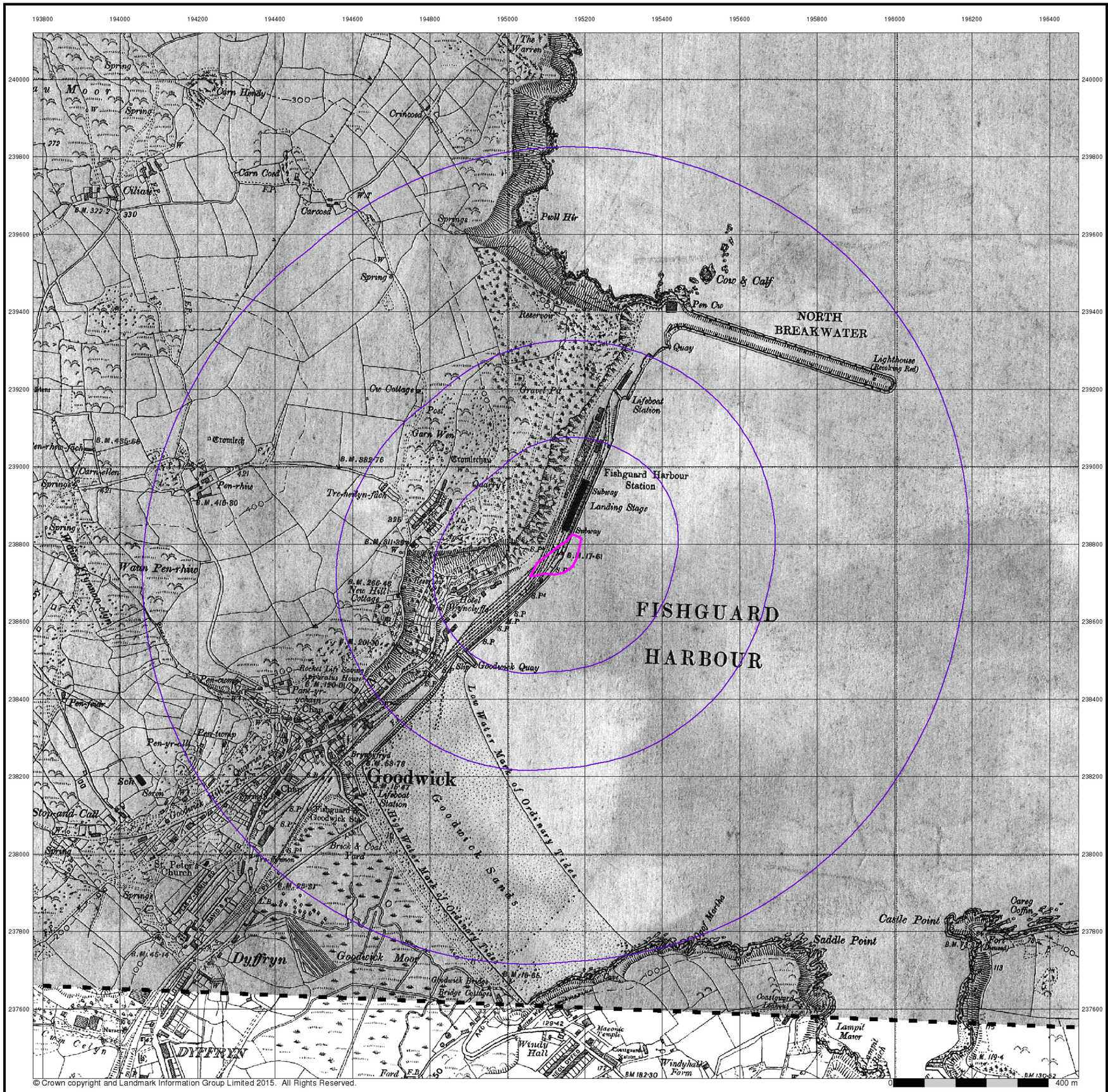
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Pembrokeshire

Published 1938

Source map scale - 1:10,560

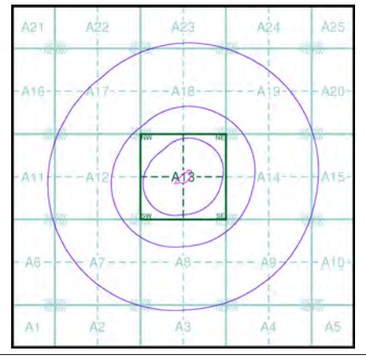
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Map Name(s) and Date(s)

004SE
1938
1:10,560

009NE
1938
1:10,560

Historical Map - Slice A



N

Order Details

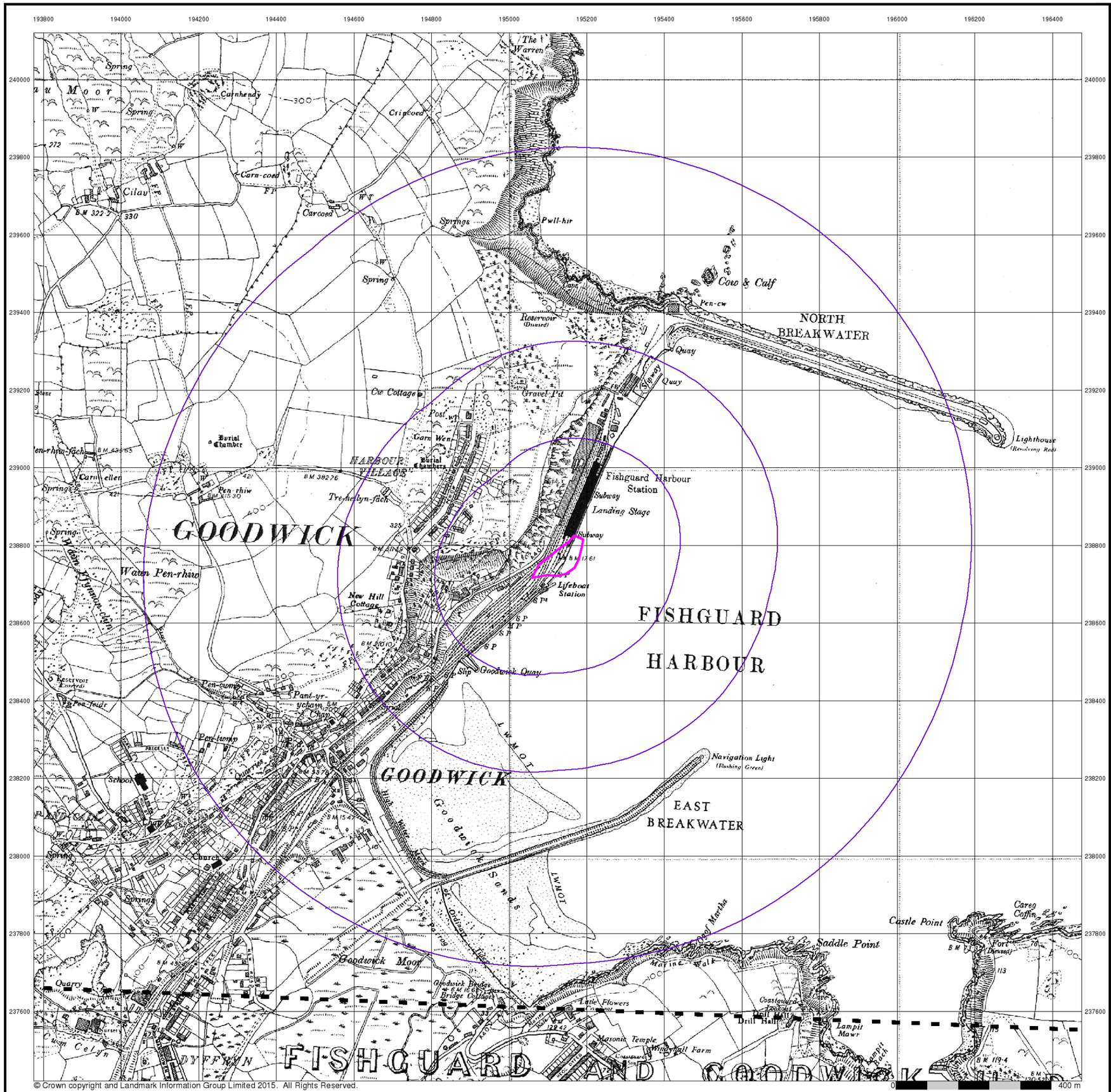
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RPS

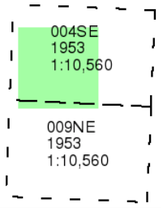
Pembrokeshire

Published 1953

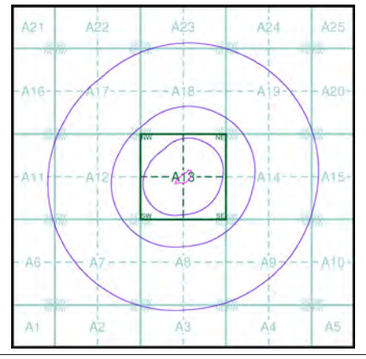
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



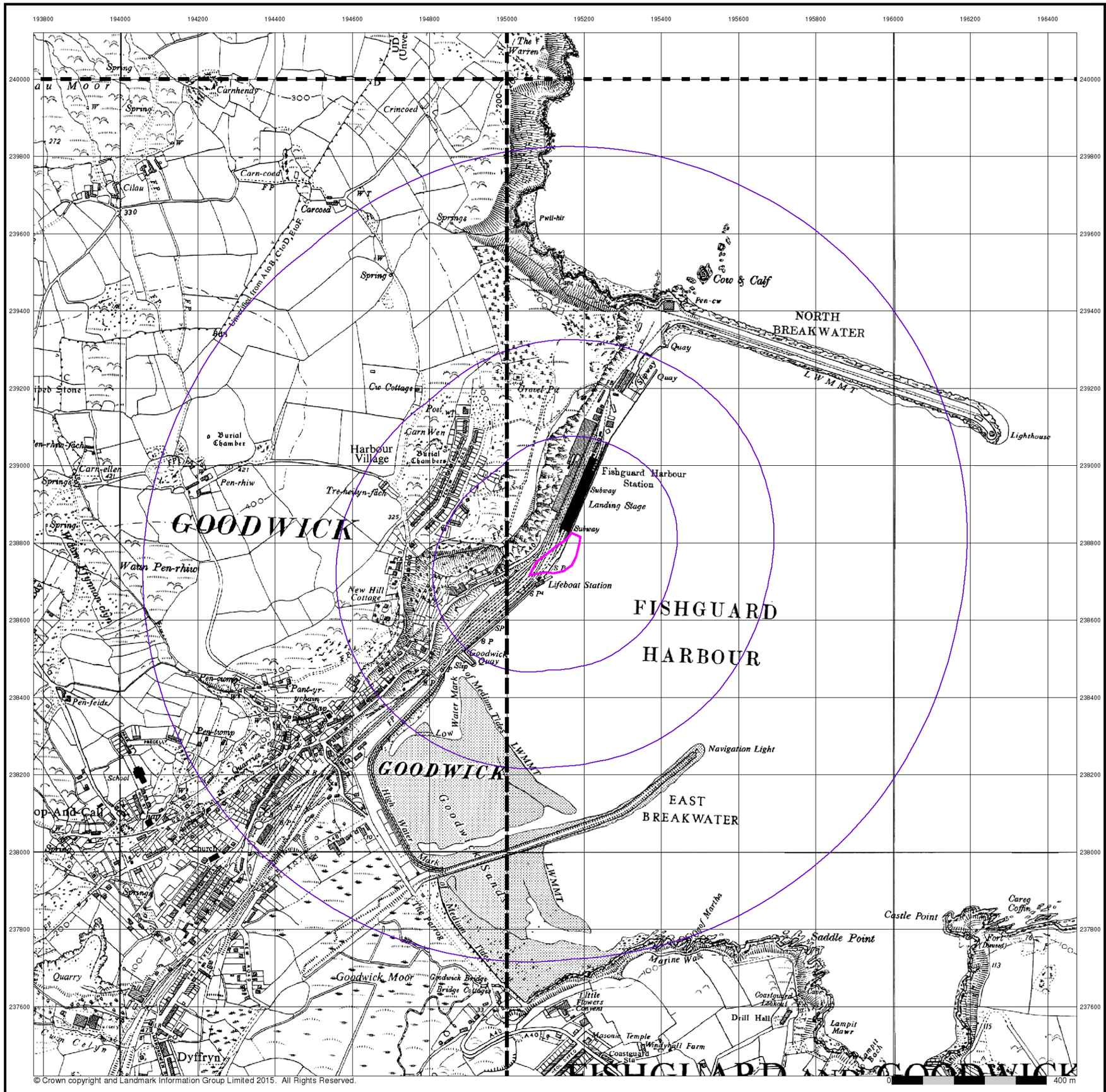
Order Details

Order Number:	144469394_1_1
Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Search Buffer (m):	1000

Site Details

Site at, Fishguard Harbour, Pembrokeshire

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RPS

Ordnance Survey Plan

Published 1964

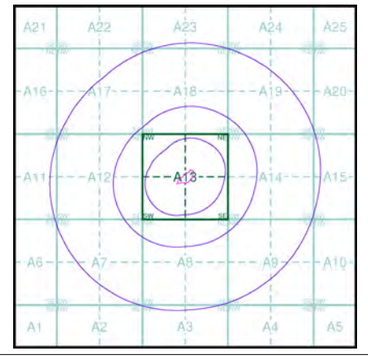
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

SM94SW 1964 1:10,560	SM94SE 1964 1:10,560
SM93NW 1964 1:10,560	SM93NE 1964 1:10,560

Historical Map - Slice A



N

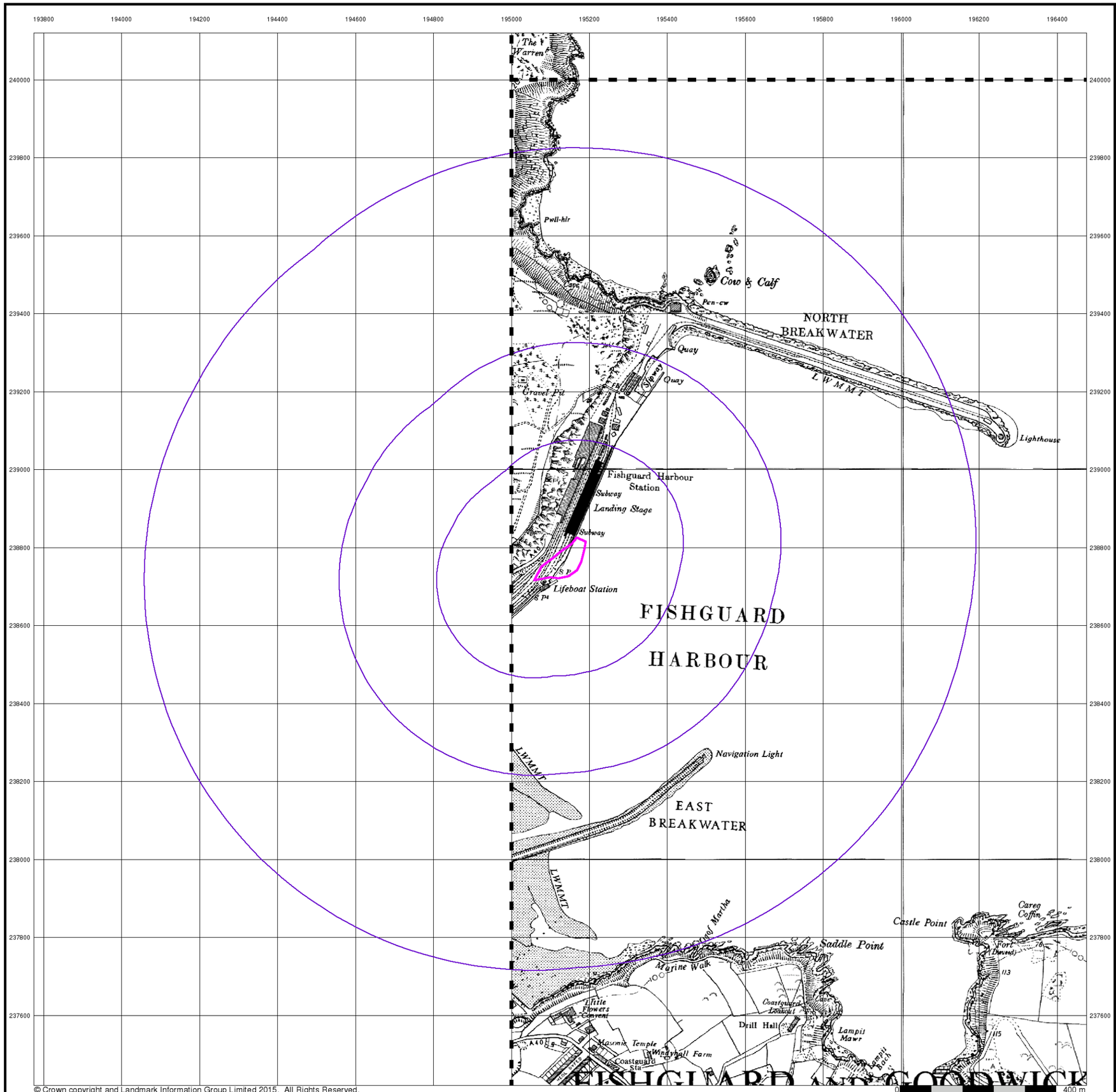
Order Details

Order Number:	144469394_1_1
Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Search Buffer (m):	1000

Site Details

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RPS

Ordnance Survey Plan

Published 1964

Source map scale - 1:10,000

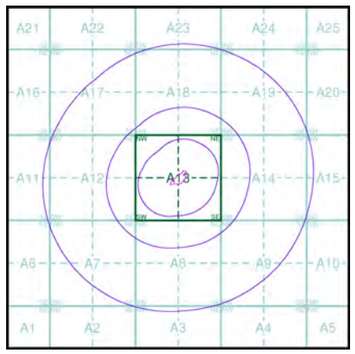
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

SM94SE
1964
1:10,560

SM93NE
1964
1:10,560

Historical Map - Slice A



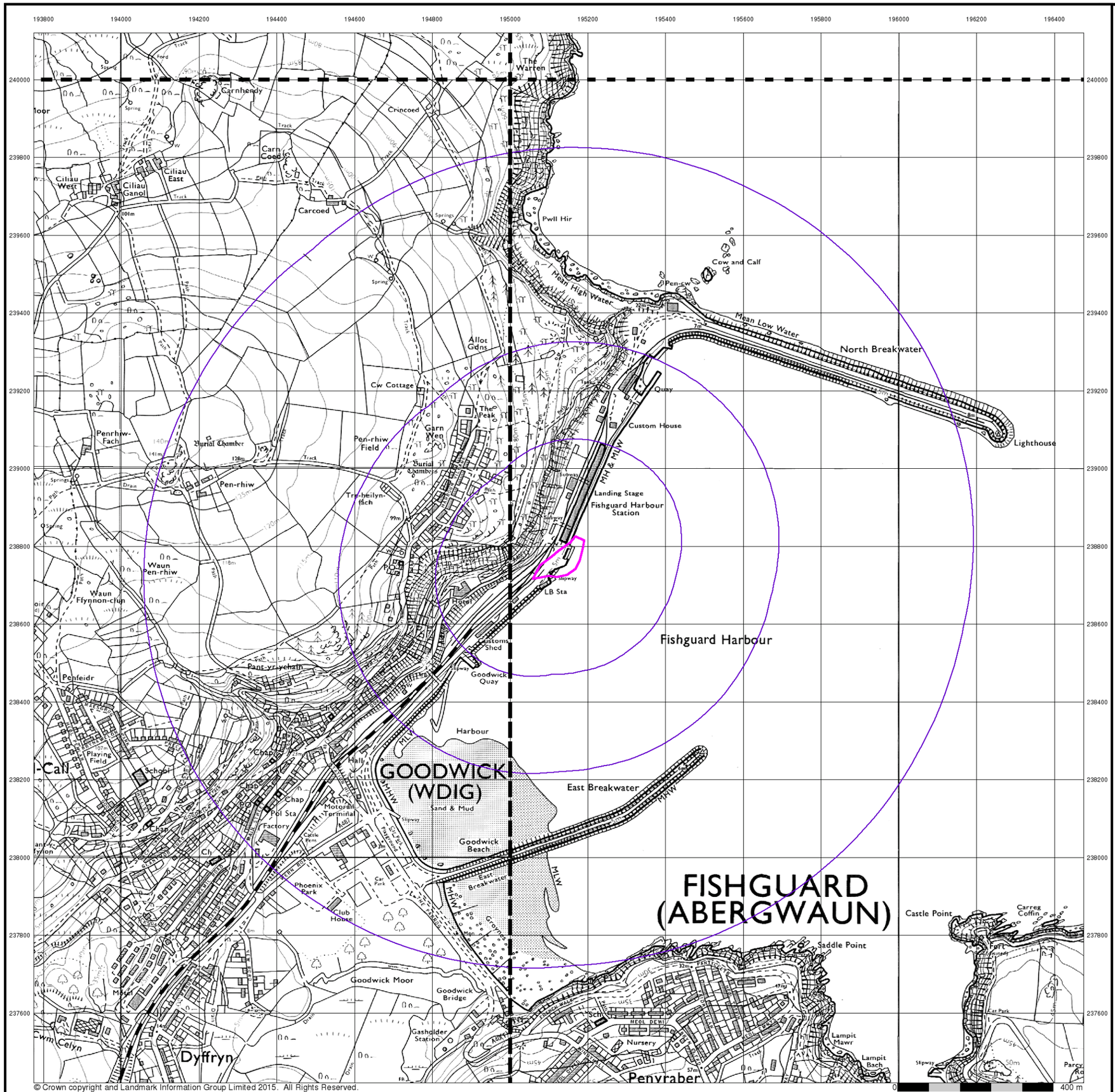
Order Details

Order Number:	144469394_1_1
Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Search Buffer (m):	1000

Site Details

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RPS

Ordnance Survey Plan

Published 1974 - 1977

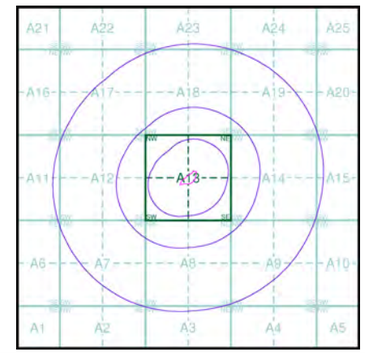
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

SM94SW 1974 1:10,000	SM94SE 1975 1:10,000
SM93NW 1977 1:10,000	SM93NE 1975 1:10,000

Historical Map - Slice A



N

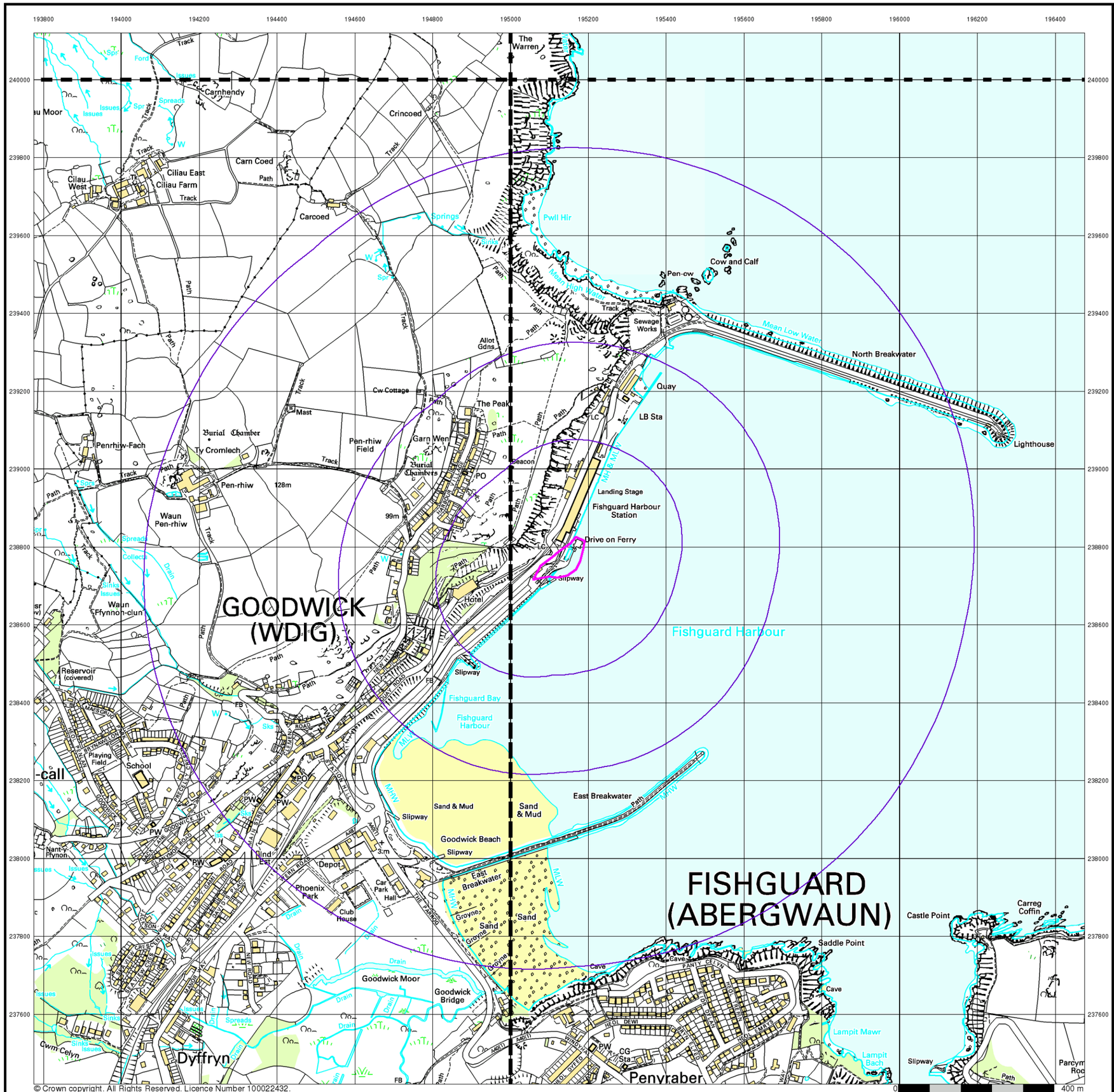
Order Details

Order Number:	144469394_1_1
Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Search Buffer (m):	1000

Site Details

Site at, Fishguard Harbour, Pembrokeshire

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RPS

10k Raster Mapping

Published 2000

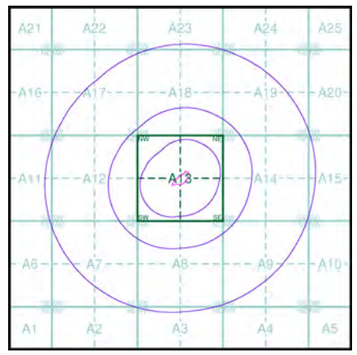
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey`s 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

SM94SW 2000 1:10,000	SM94SE 2000 1:10,000
SM93NW 2000 1:10,000	SM93NE 2000 1:10,000

Historical Map - Slice A



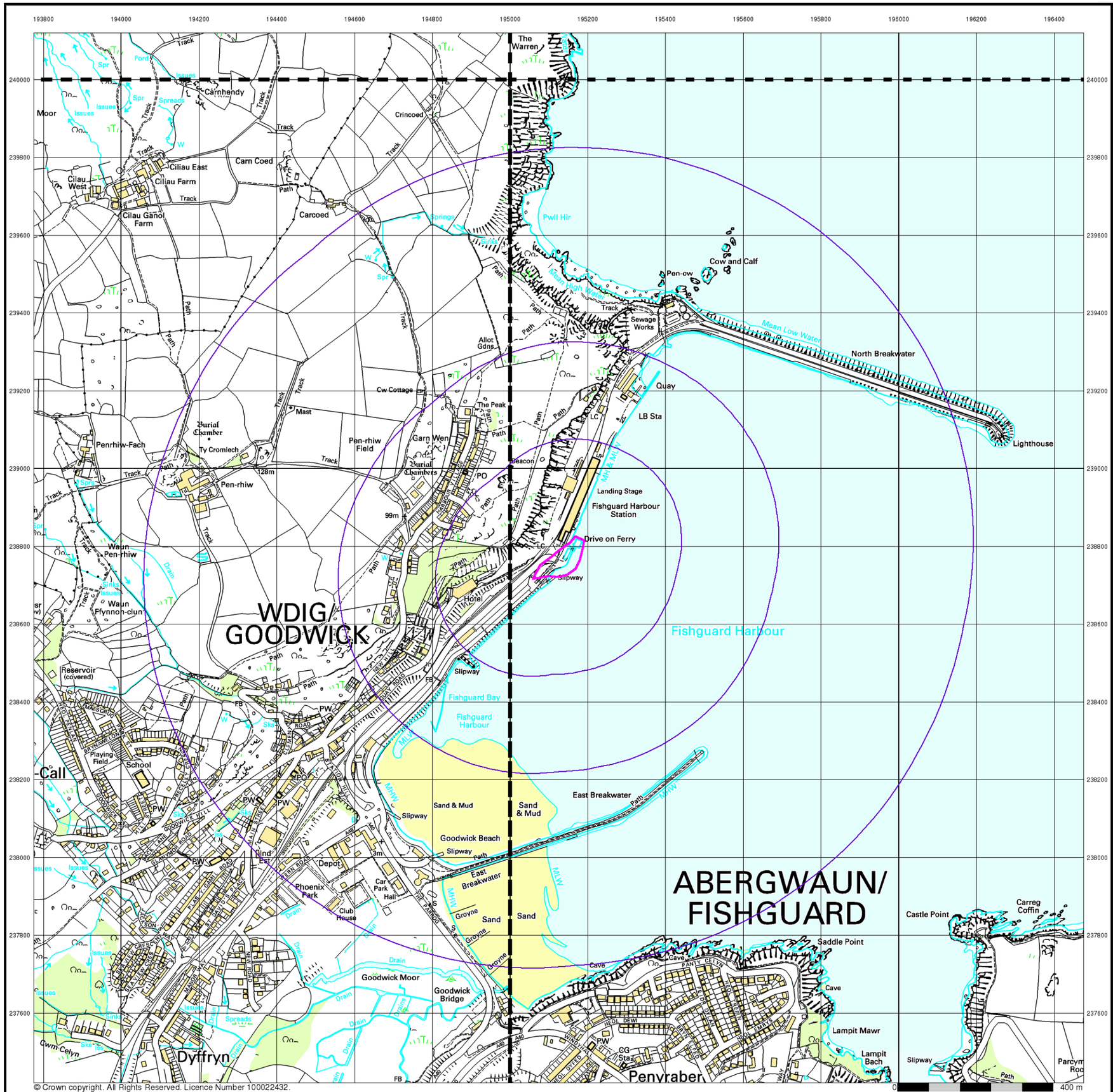
Order Details

Order Number:	144469394_1_1
Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Search Buffer (m):	1000

Site Details

Site at, Fishguard Harbour, Pembrokeshire

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RPS

10k Raster Mapping

Published 2006

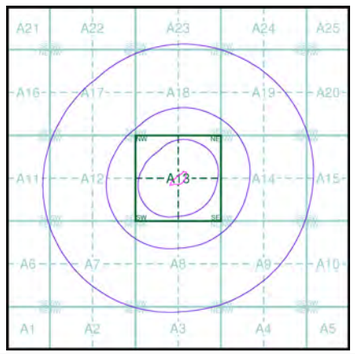
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey`s 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

SM94SW 2006 1:10,000	SM94SE 2006 1:10,000
SM93NW 2006 1:10,000	SM93NE 2006 1:10,000

Historical Map - Slice A



N

Order Details

Order Number:	144469394_1_1
Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Search Buffer (m):	1000

Site Details

Site at, Fishguard Harbour, Pembrokeshire

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RPS

VectorMap Local

Published 2017

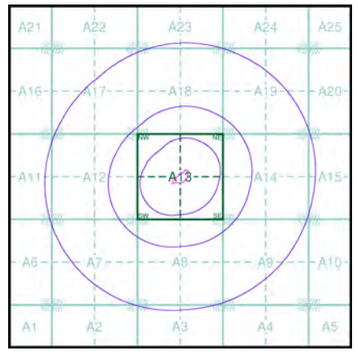
Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 scale (covering major towns and cities),1:2500 scale (smaller towns, villages and developed rural areas), and 1:10 000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)

SM94SW 2017 Variable	SM94SE 2017 Variable
SM93NW 2017 Variable	SM93NE 2017 Variable

Historical Map - Slice A



Order Details

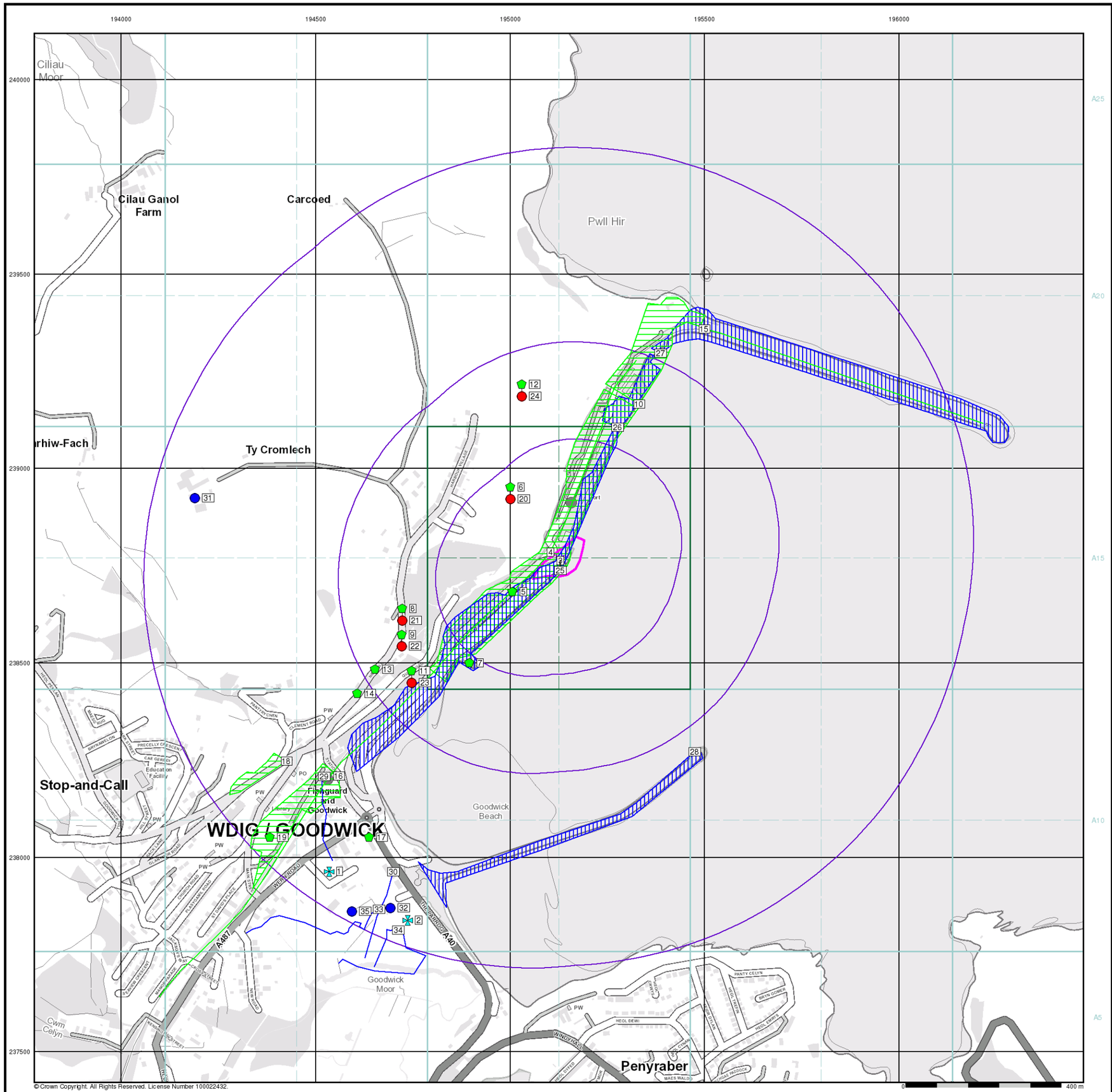
Order Number:	144469394_1_1
Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Search Buffer (m):	1000

Site Details

Site at, Fishguard Harbour, Pembrokeshire

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RPS

General

Specified Site
Specified Buffer(s)
Bearing Reference Point
Map ID
Several of Type at Location

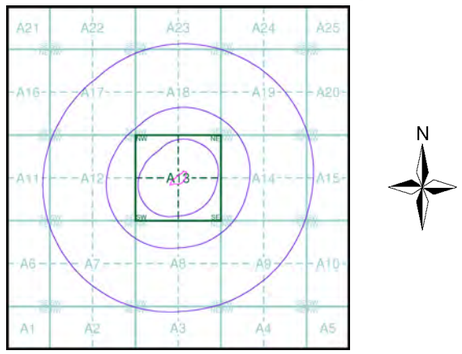
Historical Building Plans

Area Cleared due to Enemy Action

Historical Land Use

Former Marsh
Historical Flood Liability
Historical Flood Liability (Location)
Potentially Contaminative Industrial Use (Past Land Use)
Potentially Contaminative Industrial Use (Past Land Use) (Linear)
Potentially Contaminative Industrial Use (Past Land Use) (Location)
Potentially Infilled Land (Non-Water)
Potentially Infilled Land (Non-Water) (Linear)
Potentially Infilled Land (Non-Water) (Location)
Potentially Infilled Land (Water)
Potentially Infilled Land (Water) (Linear)
Potentially Infilled Land (Water) (Location)

Historical Data Report - Slice Map A



Order Details

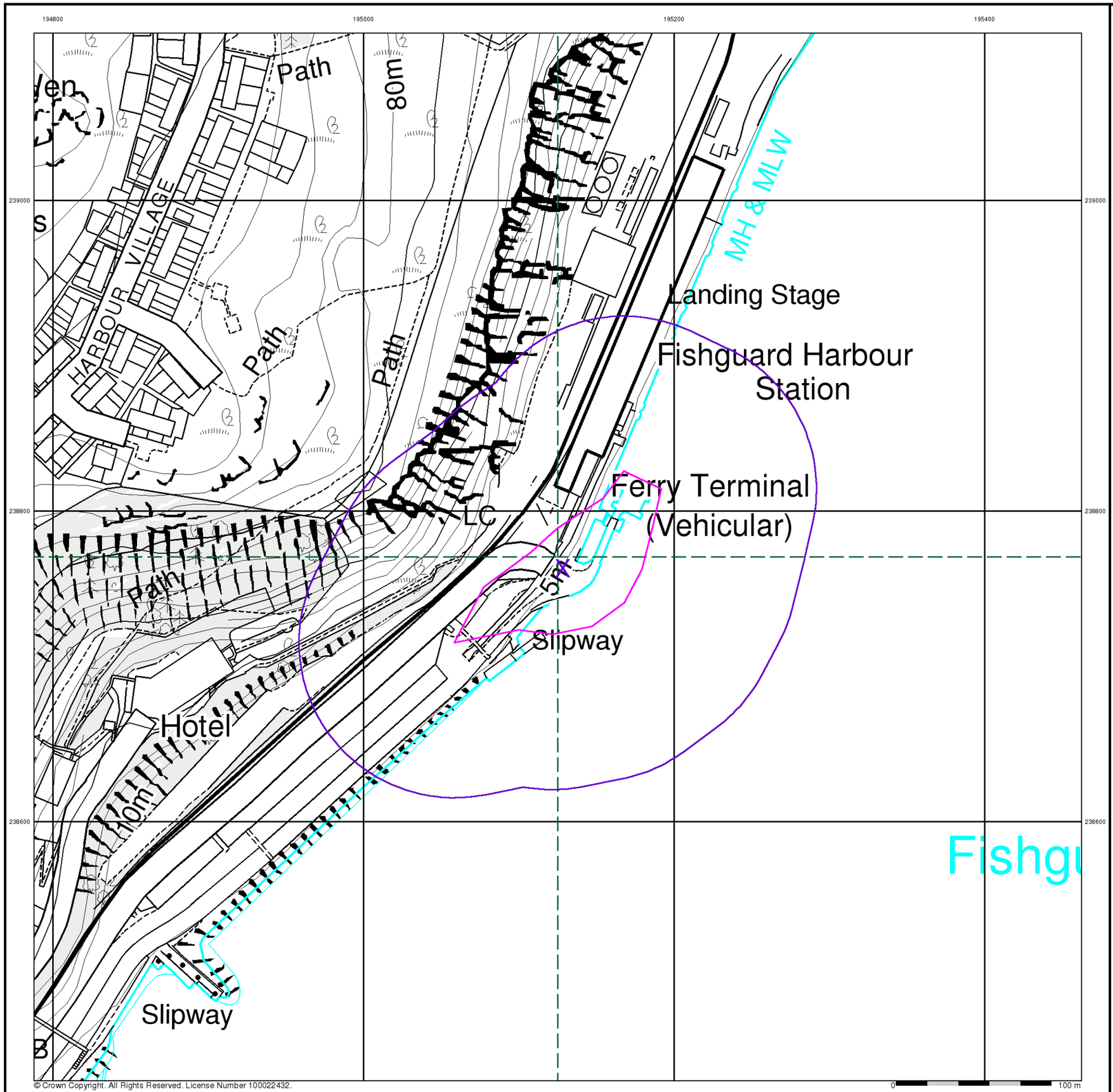
Order Number:	144469394_1_1
Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Search Buffer (m):	1000

Site Details

Site at, Fishguard Harbour, Pembrokeshire

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RPS

General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Map ID

Several of Type at Location

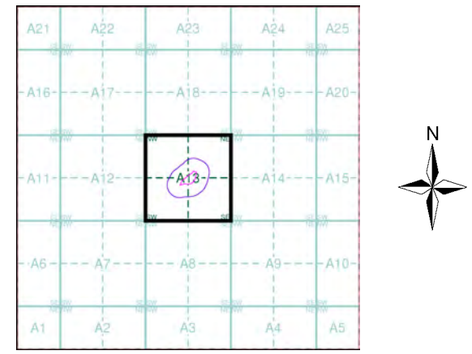
Historical Building Plans

- Area Cleared due to Enemy Action
- Asbestos
- Above Ground Fuel Tanks
- Benzene/Benzole/Naphtha, Naphthalene/Kerosene
- Electricity Generation
- Electricity Sub-Stations
- Gas Industry
- Gas Storage
- Gas Use
- Oil Industry
- Oil Storage
- Oil Use
- Paint based Oils
- Paraffin
- Petrol and Diesel Industry
- Petrol and Diesel Storage
- Petrol and Diesel Use
- Potential Fuel Gas
- Potential Fuel Oil
- Potential Fuel Use
- Potential Petrol and Diesel
- Potential Tanks
- Potentially Fuel-related Tanks
- Underground Fuel Tanks

Historical Tanks and Energy Facilities

- (B) Electrical Sub Station Facility
- (E) Electricity Industry Facility
- (G) Gas Industry Facility
- (V) Gas Monitoring Facility
- (M) Miscellaneous Power Facility
- (O) Oil Industry Facility
- (S) Petroleum Storage Facility
- (P) Potential Tank
- (T) Tank

Historical Data Report - Segment A13



Order Details

Order Number:	144469394_1_1
Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Plot Buffer (m):	100

Site Details

Site at, Fishguard Harbour, Pembrokeshire

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Envirocheck® Report:

Historical Data Report Datasheet

Order Details:

Order Number:
144469394_1_1

Customer Reference:
IBR1023

National Grid Reference:
195130, 238760

Slice:
A

Site Area (Ha):
0.71

Search Buffer (m):
1000

Site Details:

Site at
Fishguard Harbour
Pembrokeshire

Client Details:

Mr J McGrath
RPS Consultants
Elmwood House
74 Boucher Road
Belfast
Antrim
BT12 6RZ

Contents

Report Section	Page Number
Summary	-
Historical Building Plans Information	-
Historical Land Use Information	1
Historical Tanks and Energy Facilities	-
Historical Map List	3
Useful Contacts and Further Information	4

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination.
For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.

In the attached datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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Report Version v53.0

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m
Historical Building Plans Information					
Areas Cleared Due To Enemy Action					
Above Ground Fuel Tanks (100m)				n/a	n/a
Asbestos (100m)				n/a	n/a
Benzene/Benzole/Naphtha, Naphthalene/Kerosene (100m)				n/a	n/a
Electricity Generation (100m)				n/a	n/a
Electricity Sub-Stations (100m)				n/a	n/a
Gas Industry (100m)				n/a	n/a
Gas Storage (100m)				n/a	n/a
Gas Use (100m)				n/a	n/a
Oil Industry (100m)				n/a	n/a
Oil Storage (100m)				n/a	n/a
Oil Use (100m)				n/a	n/a
Paint based Oils (100m)				n/a	n/a
Paraffin (100m)				n/a	n/a
Petrol and Diesel Industry (100m)				n/a	n/a
Petrol and Diesel Storage (100m)				n/a	n/a
Petrol and Diesel Use (100m)				n/a	n/a
Potential Fuel Gas (100m)				n/a	n/a
Potential Fuel Oil (100m)				n/a	n/a
Potential Fuel Use (100m)				n/a	n/a
Potential Petrol and Diesel (100m)				n/a	n/a
Potential Tanks (100m)				n/a	n/a
Potentially Fuel-related Tanks (100m)				n/a	n/a
Underground Fuel Tanks (100m)				n/a	n/a
Historical Land Use Information					
Former Marshes	pg 1				2
Historical Flood Liabilities					
Potentially Contaminative Industrial Uses (Past Land Use)	pg 1	1	3	7	6
Potentially Infilled Land (Non-Water)	pg 1		1	4	
Potentially Infilled Land (Water)	pg 2	1		1	9

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m
Historical Tanks and Energy Facilities					
Electrical Sub Station Facilities (100m)				n/a	n/a
Electricity Industry Facilities (100m)				n/a	n/a
Gas Industry Facilities (100m)				n/a	n/a
Gas Monitoring Facilities (100m)				n/a	n/a
Miscellaneous Power Facilities (100m)				n/a	n/a
Oil Industry Facilities (100m)				n/a	n/a
Petroleum Storage Facilities (100m)				n/a	n/a
Potential Tanks (100m)				n/a	n/a
Tanks (100m)				n/a	n/a

Historical Land Use Information

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	**Former Marshes** Use: Former Marsh Date of Mapping: 1964	A7SE (SW)	917	1	194534 237963
2	**Former Marshes** Use: Former Marsh Date of Mapping: 1964	A7SE (SW)	935	1	194736 237838
3	**Potentially Contaminative Industrial Uses (Past Land Use)** Use: Railways Date of Mapping: 1908 - 1975	A13SE (NE)	0	1	195129 238763
4	**Potentially Contaminative Industrial Uses (Past Land Use)** Use: Railways Date of Mapping: 1908 - 1975	A13NW (NW)	2	1	195104 238784
5	**Potentially Contaminative Industrial Uses (Past Land Use)** Use: Transport support & cargo handling Date of Mapping: 1891	A13SW (SW)	62	1	195006 238683
6	**Potentially Contaminative Industrial Uses (Past Land Use)** Use: General quarrying Date of Mapping: 1908 - 1938	A13NW (NW)	205	1	195001 238952
7	**Potentially Contaminative Industrial Uses (Past Land Use)** Use: Transport support & cargo handling Date of Mapping: 1908 - 1977	A13SW (SW)	271	1	194895 238500
8	**Potentially Contaminative Industrial Uses (Past Land Use)** Use: Quarrying of sand & clay, operation of sand & gravel pits Date of Mapping: 1891	A12SE (W)	345	1	194723 238639
9	**Potentially Contaminative Industrial Uses (Past Land Use)** Use: Quarrying of sand & clay, operation of sand & gravel pits Date of Mapping: 1891	A12SE (SW)	367	1	194721 238573
10	**Potentially Contaminative Industrial Uses (Past Land Use)** Use: Transport support & cargo handling Date of Mapping: 1908 - 1975	A18SE (NE)	378	1	195332 239166
11	**Potentially Contaminative Industrial Uses (Past Land Use)** Use: General quarrying Date of Mapping: 1891	A12SE (SW)	391	1	194747 238480
12	**Potentially Contaminative Industrial Uses (Past Land Use)** Use: Quarrying of sand & clay, operation of sand & gravel pits Date of Mapping: 1908 - 1964	A18SW (N)	414	1	195030 239216
13	**Potentially Contaminative Industrial Uses (Past Land Use)** Use: Quarrying of sand & clay, operation of sand & gravel pits Date of Mapping: 1891	A12SE (SW)	468	1	194653 238483
14	**Potentially Contaminative Industrial Uses (Past Land Use)** Use: Weapons & ammunition [manufacture and storage] Date of Mapping: 1908 - 1938	A7NE (SW)	540	1	194607 238421
15	**Potentially Contaminative Industrial Uses (Past Land Use)** Use: Railways Date of Mapping: 1964 - 1975	A19SW (NE)	625	1	195499 239358
16	**Potentially Contaminative Industrial Uses (Past Land Use)** Use: Railways Date of Mapping: 1908 - 1977	A7NE (SW)	711	1	194560 238209
17	**Potentially Contaminative Industrial Uses (Past Land Use)** Use: Coal storage and depot Date of Mapping: 1908 - 1938	A7SE (SW)	786	1	194638 238052
18	**Potentially Contaminative Industrial Uses (Past Land Use)** Use: General quarrying Date of Mapping: 1891 - 1964	A7NW (SW)	788	1	194425 238247
19	**Potentially Contaminative Industrial Uses (Past Land Use)** Use: Factory or works - use not specified Date of Mapping: 1977	A7SW (SW)	948	1	194382 238051
20	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1975	A13NW (NW)	205	1	195001 238952
21	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1977	A12SE (W)	345	1	194723 238639

Historical Land Use Information

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
22	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1977	A12SE (SW)	367	1	194721 238573
23	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1977	A12SE (SW)	391	1	194747 238480
24	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1975	A18SW (N)	414	1	195030 239216
25	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1891	A13SE (NE)	0	1	195129 238763
26	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A13NE (NE)	301	1	195276 239106
27	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1891	A18SE (NE)	519	1	195387 239296
28	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A9NW (SE)	560	1	195474 238271
29	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1891	A7NE (SW)	740	1	194521 238207
30	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A7SE (SW)	835	1	194700 237962
31	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A12NW (W)	894	1	194190 238924
32	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A7SE (SW)	921	1	194692 237870
33	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A7SE (SW)	936	1	194666 237866
34	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A7SE (SW)	962	1	194712 237819
35	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A7SE (SW)	974	1	194593 237861

Historical Map List

No Historical Building Plans information available.

The following mapping has been analysed for Historical Land Use Information:

1:10,560	Mapsheet	Published Date
Pembrokeshire	004_SE	1891
Pembrokeshire	009_NE	1891
Pembrokeshire	004_SE	1908
Pembrokeshire	009_NE	1908
Pembrokeshire	004_SE	1938
Pembrokeshire	009_NE	1938
Ordnance Survey Plan	SM93NE	1964
Ordnance Survey Plan	SM93NW	1964
Ordnance Survey Plan	SM94SE	1964
Ordnance Survey Plan	SM94SW	1964
1:10,000	**Mapsheet**	**Published Date**
Ordnance Survey Plan	SM94SW	1974
Ordnance Survey Plan	SM93NE	1975
Ordnance Survey Plan	SM94SE	1975
Ordnance Survey Plan	SM93NW	1977

The following mapping has been analysed for Historical Tanks and Energy Facilities:

1:2,500	Mapsheet	Published Date
Ordnance Survey Plan	SM9438	1965
Ordnance Survey Plan	SM9439	1965
Ordnance Survey Plan	SM9538	1965
Ordnance Survey Plan	SM9539	1965
Ordnance Survey Plan	SM9438	1978
Ordnance Survey Plan	SM9538	1978

Useful Contacts and Further Information

Contact	Name and Address	Contact Details
1	**Landmark Information Group Limited** Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9966 Fax: 0844 844 9951 Email: helpdesk@landmark.co.uk Website: www.landmark.co.uk

Historical Building Plans Information

This data set contains potentially contaminative features such as asbestos, petrol, oil and tanks captured from Historical Building Plans. The Historical Building Plans were produced by the London-based firm Charles E. Goad Ltd. as fire insurance plans, dating back to 1885. The firm ceased production of fire insurance plans in 1970. Most of the important towns and cities of the British Isles are covered. Historical Building Plans are usually at the scales of 1:480 (1 inch to 40 feet) for the British Isles. They were updated every 5-6 years by means of revision sheets designed to be pasted on to the original plans.

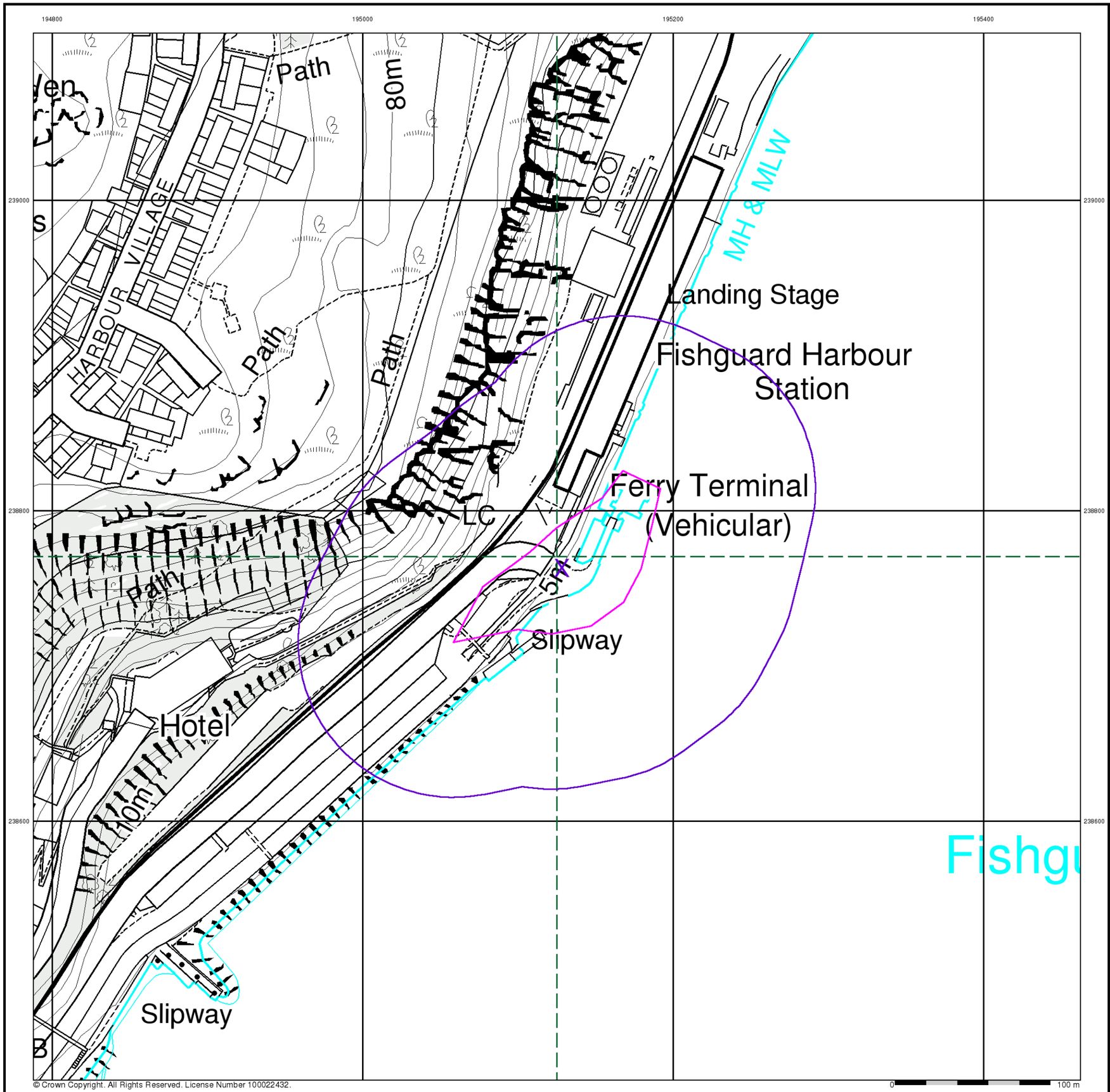
It should be noted that Historical Building Plans are only available for certain major towns and cities and in some cases there may only be partial coverage of the search area. It cannot therefore be assumed that the absence of responses under the Historical Building Plans section of this report indicates that no hazards exist. Please check the Historical Building Plans Map List table in the Historical Map List section of this report to establish if Historical Building Plans are available for this search area.

Historical Land Use Information

Landmark's Historical Land Use Data is the result of combined analysis of historical map data captured at 1:10,560 and 1:10,000. A unique comprehensive database of Historic Land Use from the 1840's to 1996 it includes 67 different types of potentially contaminated past industrial land use. This entailed analysing over 60,000 maps and is drawn from at least four, and up to six historical map editions. In addition a seventh layer was also created, known as the land use layer, containing areas of infilled land which are plotted via comparison between two or more map editions.

Historical Tanks and Energy Facilities

In addition to HLUD, additional analysis uncovered some of the most dangerous sources of contamination (past and present tanks, petrol storage, oil, gas, electricity, miscellaneous facilities). This data set covers over 390,000 Historical Tanks and Energy facilities in Great Britain and was captured from post war 1:2500 and 1:1250 Ordnance Survey historical mapping covering a period from 1943 to 1996.



RPS

Historical Land Use Information (1:2,500)

General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Map ID

Several of Type at Location

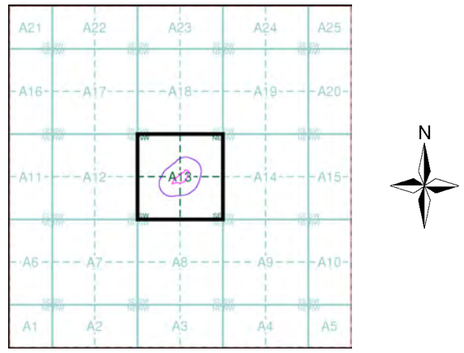
Potentially Contaminative Industrial Uses (Extractive Industries Activity)

	Point	Line	Polygon
Extractive Industries Activity from 1855 - 1909	▲	—	▭
Extractive Industries Activity from 1893 - 1915	▲	—	▨
Extractive Industries Activity from 1906 - 1937	▲	—	▭
Extractive Industries Activity from 1924 - 1949	▲	—	▨
Extractive Industries Activity from 1950 - 1980	▲	—	▭

Subterranean Features

	Point	Line	Polygon
Subterranean Features	▼	- - -	▭

Mining and Ground Stability - Segment A13



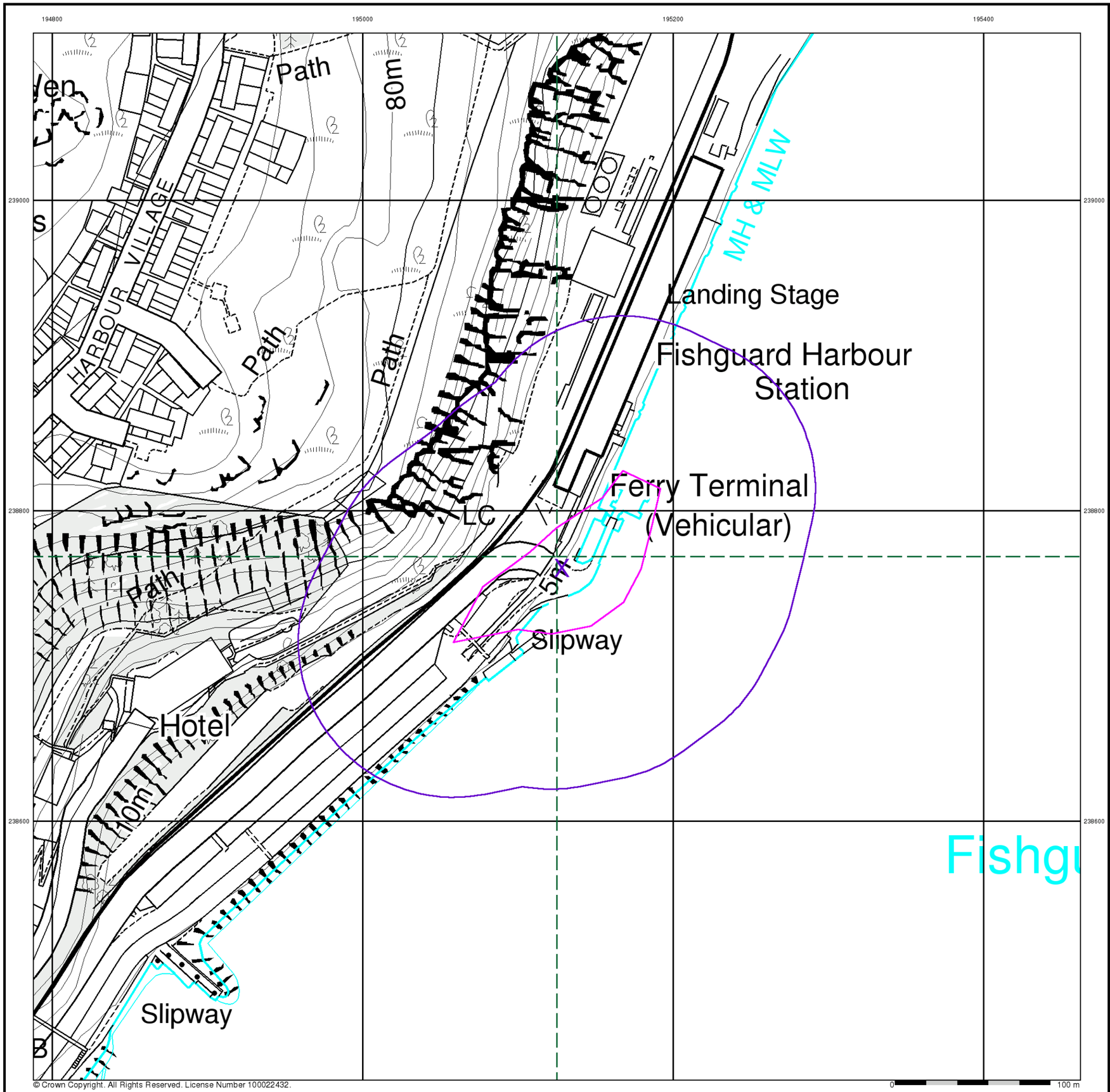
Order Details

Order Number:	144469394_1_1
Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Plot Buffer (m):	100

Site Details

Site at, Fishguard Harbour, Pembrokeshire

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



RPS

Motion Map Data (1:2,500)

General

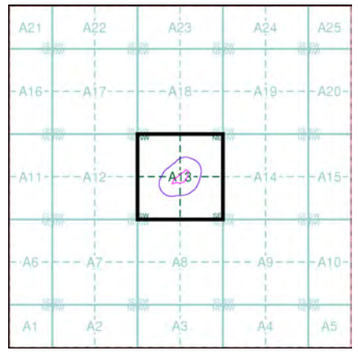
Specified Site | Specified Buffer(s) | Bearing Reference Point | Map ID

Several of Type at Location

Average Velocity Gradient

Upward Movement > 3.5mm per year	
Upward Movement 1.5mm to 3.5mm per year	
Stable 1.5mm to -1.5mm per year	
Downward Movement -1.5mm to -3.5mm per year	
Downward Movement > -3.5mm per year	

Mining and Ground Stability - Segment A13



Order Details

Order Number:	144469394_1_1
Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Plot Buffer (m):	100

Site Details

Site at, Fishguard Harbour, Pembrokeshire

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

Envirocheck® Report:

Mining and Ground Stability Datasheet

Order Details:

Order Number:
144469394_1_1

Customer Reference:
IBR1023

National Grid Reference:
195130, 238760

Slice:
A

Site Area (Ha):
0.71

Search Buffer (m):
1000

Site Details:

Site at
Fishguard Harbour
Pembrokeshire

Client Details:

Mr J McGrath
RPS Consultants
Elmwood House
74 Boucher Road
Belfast
Antrim
BT12 6RZ

Contents

Report Section and Details	Page Number
Summary	-
The Summary section provides an overview of the data contained within the report, detailing the number of data set features or the existence of a data set in relation to the buffer selected. For ease of reference, the report is broken down into 4 sections of data; Mining and Natural Cavities Data, Historical Land Use Information (1:2,500), Historical Land Use Information (1:10,000) and Ground Stability Data (1:50,000).	
Mining and Natural Cavities Data	1
The Mining and Natural Cavities Data section features data sets related to the existence of mining areas and their potential hazards; and details of naturally formed cavities. Data sets within this section are not plotted, with the exception of BGS Recorded Mineral Sites and Potential Mining Areas which feature on the Historical Land Use Information (1:10,000) map.	
Historical Land Use Information (1:2,500)	-
The Historical Land Use Information (1:2,500) section contains data captured from analysis carried out by Landmark of 1:1,250 and 1:2,500 scale historical Ordnance Survey mapping, identifying areas where, historically, the land uses were potentially contaminative. For the purpose of this Envirocheck module, only historical data relating to mining and ground stability has been included and plotted on the corresponding Historical Land Use Information (1:2,500) map. This section also includes the Subterranean Features data set, which details various man-made and man-used underground spaces obtained from the Subterranea Britannica society.	
Historical Land Use Information (1:10,000)	3
The Historical Land Use (1:10,000) section covers data captured from the systematic analysis carried out by Landmark of 1:10, 560 and 1:10,000 scale historical Ordnance Survey mapping dating back to the mid-19th century, identifying potentially contaminative past industrial land uses. For the purpose of this Envirocheck module, only data relating to mining and ground stability has been included and plotted on the accompanying Historical Land Use Information (1:10,000) map.	
Ground Stability Data (1:50,000)	5
The Ground Stability (1:50,000) section includes the BGS Geosure data suite, reporting features to 250m and plotted onto 3 separate maps. Also reported is brine subsidence, brine mining and salt mining data sets, of which Brine Pumping and Salt Mining Related Features are plotted, and subsidence insurance claims and insurance investigations data, which is not plotted.	
Motion Map Data (1:2,500)	-
The Motion Map Data (1:2,500) section contains data which is plotted to indicate long-term stability trends from analysis of satellite radar data.	
Historical Map List	7
The Historical Map List section details the historical mapping that has been analysed for your site, in relation to the Historical Land Use Information sections.	
Data Currency	8
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The brine subsidence data relating to the Driotwich area as provided in this report is derived from JPB studies and physical monitoring undertaken annually over more than 35 years. For more detailed interpretation contact enquiries@jpb.co.uk. JPB retain the copyright and intellectual rights to this data and accept no liability for any loss or damage, including in direct or consequential loss, arising from the use of this data.

Contents

Report Version v53.0

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m
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Man Made Mining Cavities					
Mining Instability			n/a	n/a	n/a
Natural Cavities					
Non Coal Mining Areas of Great Britain	pg 2	Yes	Yes	n/a	n/a
Potential Mining Areas					
Historical Land Use Information (1:2,500)					
Extractive Industries or Potential Excavations from 1855-1909 (100m)				n/a	n/a
Extractive Industries or Potential Excavations from 1893-1915 (100m)				n/a	n/a
Extractive Industries or Potential Excavations from 1906-1937 (100m)				n/a	n/a
Extractive Industries or Potential Excavations from 1924-1949 (100m)				n/a	n/a
Extractive Industries or Potential Excavations from 1950-1980 (100m)				n/a	n/a
Subterranean Features (100m)				n/a	n/a
Historical Land Use Information (1:10,000)					
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Mineral Railway					
Mining & quarrying general					
Mining of coal & lignite					
Quarrying of sand & clay, operation of sand & gravel pits	pg 3			4	
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Potentially Infilled Land (Water)	pg 3	1		1	9

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m
Ground Stability Data (1:50,000)					
CBSCB Compensation District			n/a	n/a	n/a
Brine Pumping Related Features					
Brine Subsidence Solution Area					
Potential for Collapsible Ground Stability Hazards	pg 5	Yes	Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 5	Yes	Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards	pg 5	Yes	Yes	n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 5	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 5	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 6	Yes	Yes	n/a	n/a
Salt Mining Related Features					
Subsidence Insurance Claims				n/a	n/a
Subsidence Investigations				n/a	n/a
Motion Map Data (1:2,500)					
Motion Map (100m)				n/a	n/a

Report Version v53.0

Mining and Natural Cavities Data

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	**BGS Recorded Mineral Sites** Site Name: Garn Wen Location: , Goodwick, Fishguard, Pembrokeshire Source: British Geological Survey, National Geoscience Information Service Reference: 89008 Type: Opencast **Status: Ceased** Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Ordovician Geology: Fishguard Volcanic Group Commodity: Igneous and Metamorphic Rock Positional Accuracy: Located by supplier to within 10m	A13NW (NW)	233	1	194970 238962
2	**BGS Recorded Mineral Sites** Site Name: New Hill Cottage Location: , Goodwick, Fishguard, Pembrokeshire Source: British Geological Survey, National Geoscience Information Service Reference: 88999 Type: Opencast **Status: Ceased** Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Ordovician Geology: Fishguard Volcanic Group Commodity: Sand and Gravel Positional Accuracy: Located by supplier to within 10m	A12SE (W)	359	1	194707 238644
3	**BGS Recorded Mineral Sites** Site Name: Gro Wen Location: , Goodwick, Fishguard, Pembrokeshire Source: British Geological Survey, National Geoscience Information Service Reference: 89000 Type: Opencast **Status: Ceased** Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Ordovician Geology: Fishguard Volcanic Group Commodity: Sand and Gravel Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	373	1	194709 238587
4	**BGS Recorded Mineral Sites** Site Name: Penrhyn Location: , Goodwick, Fishguard, Pembrokeshire Source: British Geological Survey, National Geoscience Information Service Reference: 89002 Type: Opencast **Status: Ceased** Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Ordovician Geology: Fishguard Volcanic Group Commodity: Igneous and Metamorphic Rock Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	398	1	194735 238485
5	**BGS Recorded Mineral Sites** Site Name: Garn Wen Location: , Goodwick, Fishguard, Pembrokeshire Source: British Geological Survey, National Geoscience Information Service Reference: 89007 Type: Opencast **Status: Ceased** Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Ordovician Geology: Fishguard Volcanic Group Commodity: Sand and Gravel Positional Accuracy: Located by supplier to within 10m	A18SW (N)	433	1	195006 239227
6	**BGS Recorded Mineral Sites** Site Name: Pant-Yr-Ychain Location: , Goodwick, Fishguard, Pembrokeshire Source: British Geological Survey, National Geoscience Information Service Reference: 89001 Type: Opencast **Status: Ceased** Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Ordovician Geology: Fishguard Volcanic Group Commodity: Sand and Gravel Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	469	1	194646 238493

Mining and Natural Cavities Data

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
7	**BGS Recorded Mineral Sites** Site Name: Goodwick Location: Goodwick Hill, Goodwick, Fishguard, Pembrokeshire Source: British Geological Survey, National Geoscience Information Service Reference: 89003 Type: Opencast **Status: Ceased** Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Ordovician Geology: Fishguard Volcanic Group Commodity: Igneous and Metamorphic Rock Positional Accuracy: Located by supplier to within 10m	A7NW (SW)	914	1	194310 238191
	Coal Mining Affected Areas In an area which may not be affected by coal mining				
	Non Coal Mining Areas of Great Britain Risk: Highly Unlikely Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	0	1	195117 238772
	Non Coal Mining Areas of Great Britain Risk: Highly Unlikely Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	59	1	195000 238763

Historical Land Use Information (1:10,000)

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
8	**General Quarrying** Use: Not Supplied Date of Mapping: 1908 - 1938	A13NW (NW)	205	-	195001 238952
9	**General Quarrying** Use: Not Supplied Date of Mapping: 1891	A12SE (SW)	391	-	194747 238480
10	**General Quarrying** Use: Not Supplied Date of Mapping: 1891 - 1964	A7NW (SW)	788	-	194425 238247
11	**Quarrying of sand & clay, operation of sand & gravel pits** Use: Not Supplied Date of Mapping: 1891	A12SE (W)	345	-	194723 238639
12	**Quarrying of sand & clay, operation of sand & gravel pits** Use: Not Supplied Date of Mapping: 1891	A12SE (SW)	367	-	194721 238573
13	**Quarrying of sand & clay, operation of sand & gravel pits** Use: Not Supplied Date of Mapping: 1908 - 1964	A18SW (N)	414	-	195030 239216
14	**Quarrying of sand & clay, operation of sand & gravel pits** Use: Not Supplied Date of Mapping: 1891	A12SE (SW)	468	-	194653 238483
15	**Former Marshes** Use: Former Marsh Date of Mapping: 1964	A7SE (SW)	917	-	194534 237963
16	**Former Marshes** Use: Former Marsh Date of Mapping: 1964	A7SE (SW)	935	-	194736 237838
17	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1975	A13NW (NW)	205	-	195001 238952
18	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1977	A12SE (W)	345	-	194723 238639
19	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1977	A12SE (SW)	367	-	194721 238573
20	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1977	A12SE (SW)	391	-	194747 238480
21	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1975	A18SW (N)	414	-	195030 239216
22	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1891	A13SE (NE)	0	-	195129 238763
23	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A13NE (NE)	301	-	195276 239106
24	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1891	A18SE (NE)	519	-	195387 239296
25	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A9NW (SE)	560	-	195474 238271
26	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1891	A7NE (SW)	740	-	194521 238207
27	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A7SE (SW)	835	-	194700 237962
28	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A12NW (W)	894	-	194190 238924

Historical Land Use Information (1:10,000)

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
29	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A7SE (SW)	921	-	194692 237870
30	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A7SE (SW)	936	-	194666 237866
31	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A7SE (SW)	962	-	194712 237819
32	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A7SE (SW)	974	-	194593 237861

Ground Stability Data (1:50,000)

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	CBSCB Compensation District The site does not fall within the brine compensation area.				
	Brine Subsidence Solution Area The site does not fall within the brine subsidence solution area.				
33	**Potential for Collapsible Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (NE)	0	1	195129 238763
34	**Potential for Collapsible Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	59	1	195000 238763
35	**Potential for Compressible Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (NE)	0	1	195129 238763
36	**Potential for Compressible Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	59	1	195000 238730
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	25	1	195084 238790
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	61	1	195000 238763
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (NE)	0	1	195129 238763
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	59	1	195000 238763
37	**Potential for Landslide Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (NE)	0	1	195129 238763
38	**Potential for Landslide Ground Stability Hazards** Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	37	1	195039 238755
39	**Potential for Landslide Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	59	1	195000 238763
40	**Potential for Landslide Ground Stability Hazards** Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	60	1	195000 238730
	Potential for Landslide Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	112	1	195000 238831
	Potential for Landslide Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	112	1	195005 238838
	Potential for Landslide Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	164	1	194905 238660
41	**Potential for Running Sand Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (NE)	0	1	195129 238763
42	**Potential for Running Sand Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	59	1	195000 238730
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	25	1	195084 238790
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	61	1	195000 238763

Ground Stability Data (1:50,000)

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
43	**Potential for Shrinking or Swelling Clay Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	7	1	195111 238715
44	**Potential for Shrinking or Swelling Clay Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	108	1	195000 238626
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (NE)	0	1	195129 238763
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	59	1	195000 238763

Historical Map List

The following mapping has been analysed for Historical Land Use Information (1:2,500):

1:2,500	Mapsheet	Published Date
Ordnance Survey Plan	SM9438	1965
Ordnance Survey Plan	SM9439	1965
Ordnance Survey Plan	SM9538	1965
Ordnance Survey Plan	SM9539	1965

The following mapping has been analysed for Historical Land Use Information (1:10,000):

1:10,560	Mapsheet	Published Date
Pembrokeshire	004_SE	1891
Pembrokeshire	009_NE	1891
Pembrokeshire	004_SE	1908
Pembrokeshire	009_NE	1908
Pembrokeshire	004_SE	1938
Pembrokeshire	009_NE	1938
Ordnance Survey Plan	SM93NE	1964
Ordnance Survey Plan	SM93NW	1964
Ordnance Survey Plan	SM94SE	1964
Ordnance Survey Plan	SM94SW	1964
1:10,000	**Mapsheet**	**Published Date**
Ordnance Survey Plan	SM94SW	1974
Ordnance Survey Plan	SM93NE	1975
Ordnance Survey Plan	SM94SE	1975
Ordnance Survey Plan	SM93NW	1977

Mining and Cavities Data	Version	Update Cycle
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	April 2017	Bi-Annually
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	As notified
Man Made Mining Cavities Peter Brett Associates	April 2017	Bi-Annually
Mining Instability Ove Arup & Partners	October 2000	Not Applicable
Natural Cavities Peter Brett Associates	March 2017	Bi-Annually
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Historical Land Use Information (1:2,500)	**Version**	**Update Cycle**
Subterranean Features Landmark Information Group Limited	August 2017	Bi-Annually
Ground Stability Data (1:50,000)	**Version**	**Update Cycle**
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Subsidence Insurance Claims SP Property Services	August 2017	Quarterly
Subsidence Investigations CET Structures Ltd	August 2017	Quarterly
Brine Subsidence Solution Area Johnson Poole & Bloomer	January 2015	As notified

Motion Map Data (1:2,500)	Version	Update Cycle
Motion Map		
Nigel Press Associates - Hampshire	February 2011	As notified
Nigel Press Associates - Cambridge	January 2011	As notified
Nigel Press Associates - Ipswich	January 2011	As notified
Nigel Press Associates - Norwich	January 2011	As notified
Nigel Press Associates - Peterborough	January 2011	As notified
Nigel Press Associates - Barnstaple	July 2010	As notified
Nigel Press Associates - Derbyshire	July 2010	As notified
Nigel Press Associates - Humberside	July 2010	As notified
Nigel Press Associates - Kent	July 2010	As notified
Nigel Press Associates - Lincolnshire	July 2010	As notified
Nigel Press Associates - Nottinghamshire	July 2010	As notified
Nigel Press Associates - Birmingham	May 2009	As notified
Nigel Press Associates - Bournemouth	May 2009	As notified
Nigel Press Associates - Brighton	May 2009	As notified
Nigel Press Associates - Bristol	May 2009	As notified
Nigel Press Associates - Cardiff	May 2009	As notified
Nigel Press Associates - Central London	May 2009	As notified
Nigel Press Associates - Cheltenahm	May 2009	As notified
Nigel Press Associates - Coventry	May 2009	As notified
Nigel Press Associates - Crawley	May 2009	As notified
Nigel Press Associates - Edinburgh	May 2009	As notified
Nigel Press Associates - Exeter	May 2009	As notified
Nigel Press Associates - Glasgow	May 2009	As notified
Nigel Press Associates - Isle of Wight	May 2009	As notified
Nigel Press Associates - Leeds	May 2009	As notified
Nigel Press Associates - Leicester	May 2009	As notified
Nigel Press Associates - Liverpool	May 2009	As notified
Nigel Press Associates - Manchester	May 2009	As notified
Nigel Press Associates - Milton Keynes	May 2009	As notified
Nigel Press Associates - Newcastle	May 2009	As notified
Nigel Press Associates - Northwich	May 2009	As notified
Nigel Press Associates - Nottingham	May 2009	As notified
Nigel Press Associates - Oxford	May 2009	As notified
Nigel Press Associates - Plymouth	May 2009	As notified
Nigel Press Associates - Portsmouth	May 2009	As notified
Nigel Press Associates - Preston	May 2009	As notified
Nigel Press Associates - Reading	May 2009	As notified
Nigel Press Associates - Sheffield	May 2009	As notified
Nigel Press Associates - Stoke	May 2009	As notified
Nigel Press Associates - Swindon	May 2009	As notified
Nigel Press Associates - Tonbridge	May 2009	As notified
Nigel Press Associates - North London	November 2008	As notified
Nigel Press Associates - Head Office	September 2008	As notified

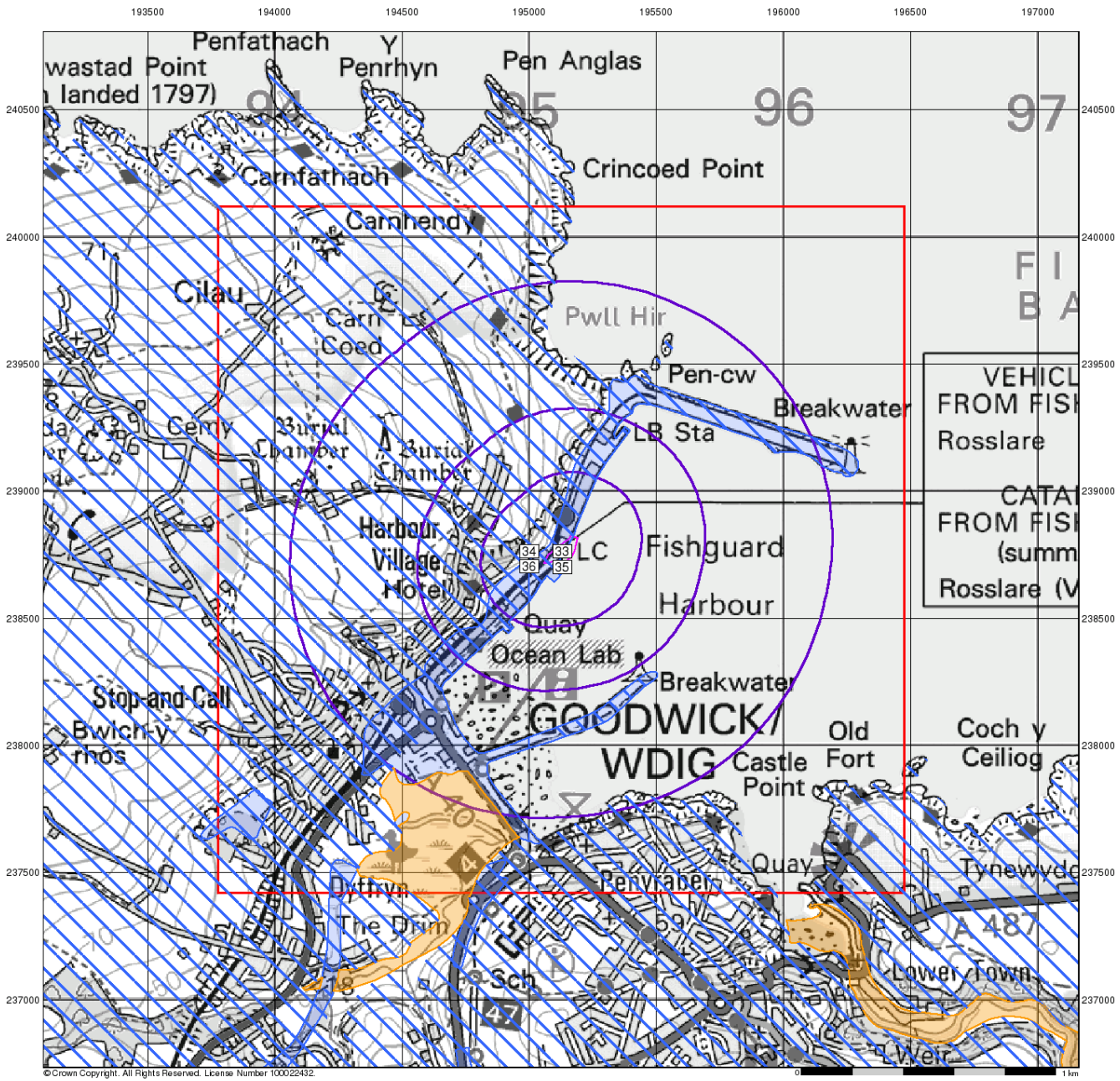
Data Suppliers

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
British Geological Survey	
The Coal Authority	
Ove Arup	
Peter Brett Associates	
Wardell Armstrong	
Johnson Poole & Bloomer	

Useful Contacts

Contact	Name and Address	Contact Details
1	**British Geological Survey - Enquiry Service** British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
-	**Landmark Information Group Limited** Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk



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Ground Stability Data (1:50,000)

General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Potential for Compressible Ground Stability Hazards

High | Low | Moderate | Very Low

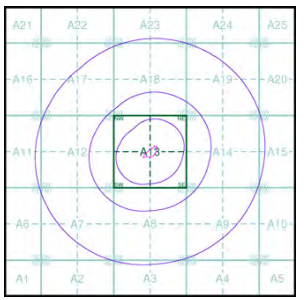
Potential for Collapsible Ground Stability Hazards

High | Low | Moderate | Very Low

Brine Pumping and Salt Mining

	Point	Polygon
Brine Pumping Related Feature	▲	▨
Salt Mining Related Feature	▲	▨

Mining and Ground Stability - Slice A



Order Details

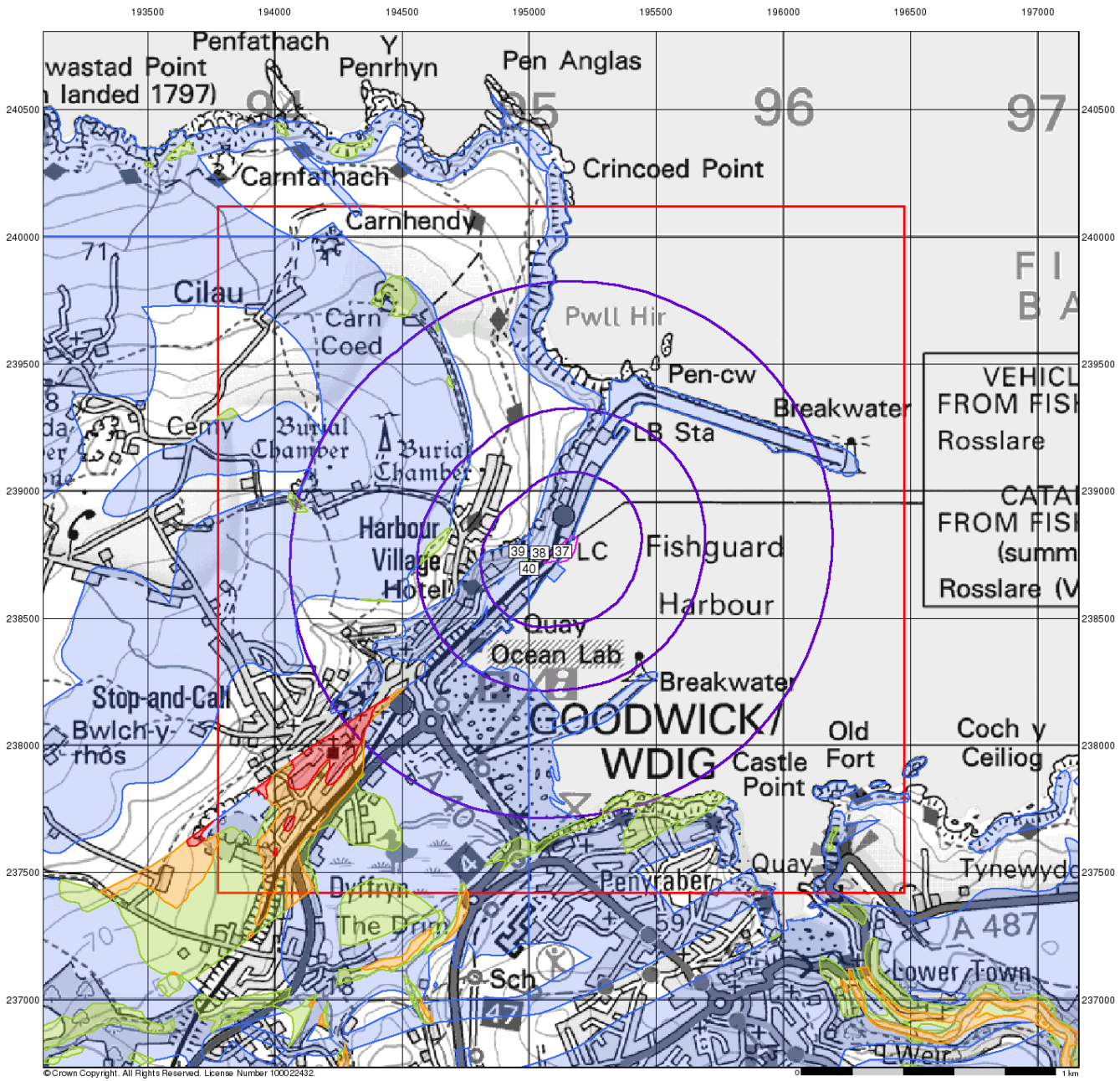
Order Number:	144469394_1_1
Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Search Buffer (m):	1000

Site Details

Site at, Fishguard Harbour, Pembrokeshire

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Ground Stability Data (1:50,000)

General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

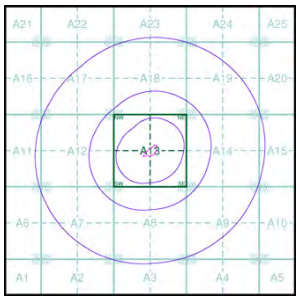
Potential for Landslide Ground Stability Hazards

High | Low | Moderate | Very Low

Potential for Ground Dissolution Stability Hazards

High | Low | Moderate | Very Low

Mining and Ground Stability - Slice A



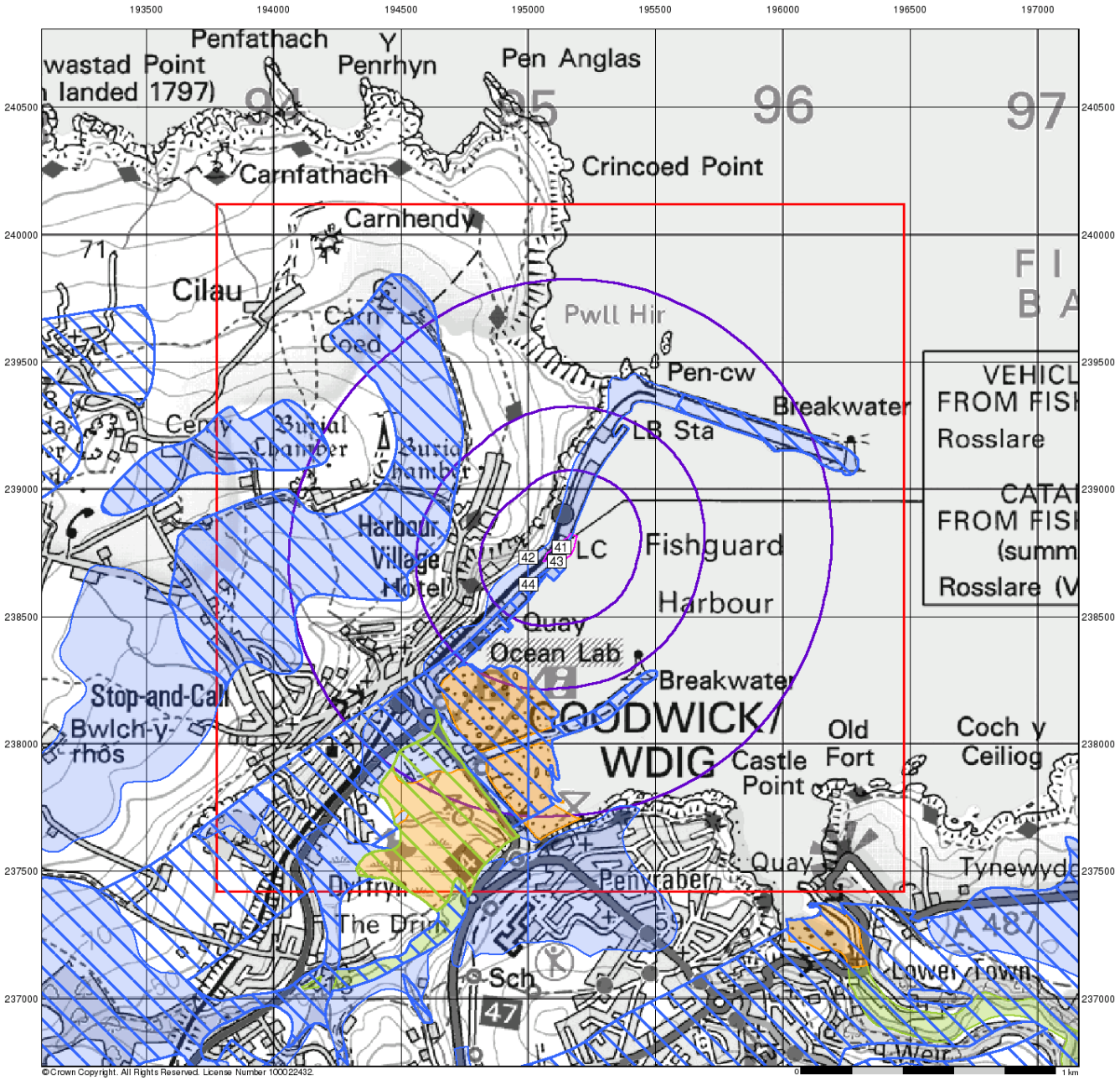
Order Details

Order Number:	144469394_1_1
Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
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Site Details

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Ground Stability Data (1:50,000)

General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

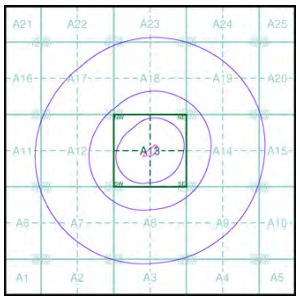
Potential for Running Sand Ground Stability Hazards

High | Low | Moderate | Very Low

Potential for Shrinking or Swelling Clay Ground Stability Hazards

High | Low | Moderate | Very Low

Mining and Ground Stability - Slice A



Order Details

Order Number:	144469394_1_1
Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Search Buffer (m):	1000

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Historical Land Use Information (1:10,000)

General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Map ID

Several of Type at Location

Potentially Contaminative Industrial Uses (Past Land Uses - Mining)

	Point	Line	Polygon
Air Shafts	◆		
Disturbed Ground	◆		
General Quarrying	◆		
Heap, unknown constituents	◆		
Mineral Railway	◆		
Mining and Quarrying General	◆		
Mining of Coal & Lignite	◆		
Quarrying of Sand and Clay, Operation of Sand and Gravel Pits	◆		

Historical Land Use

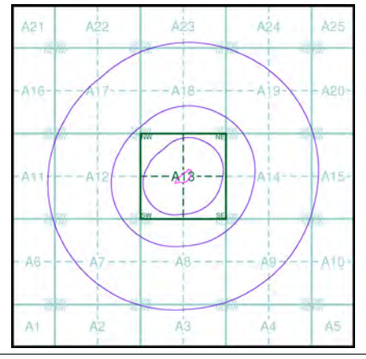
	Point	Line	Polygon
Potentially Infilled Land (Non-Water)	●		
Potentially Infilled Land (Water)	●		
Former Marsh	✠		

Mining Data

Potential Mining Area

BGS Recorded Mineral Site

Mining and Ground Stability - Slice A



Order Details

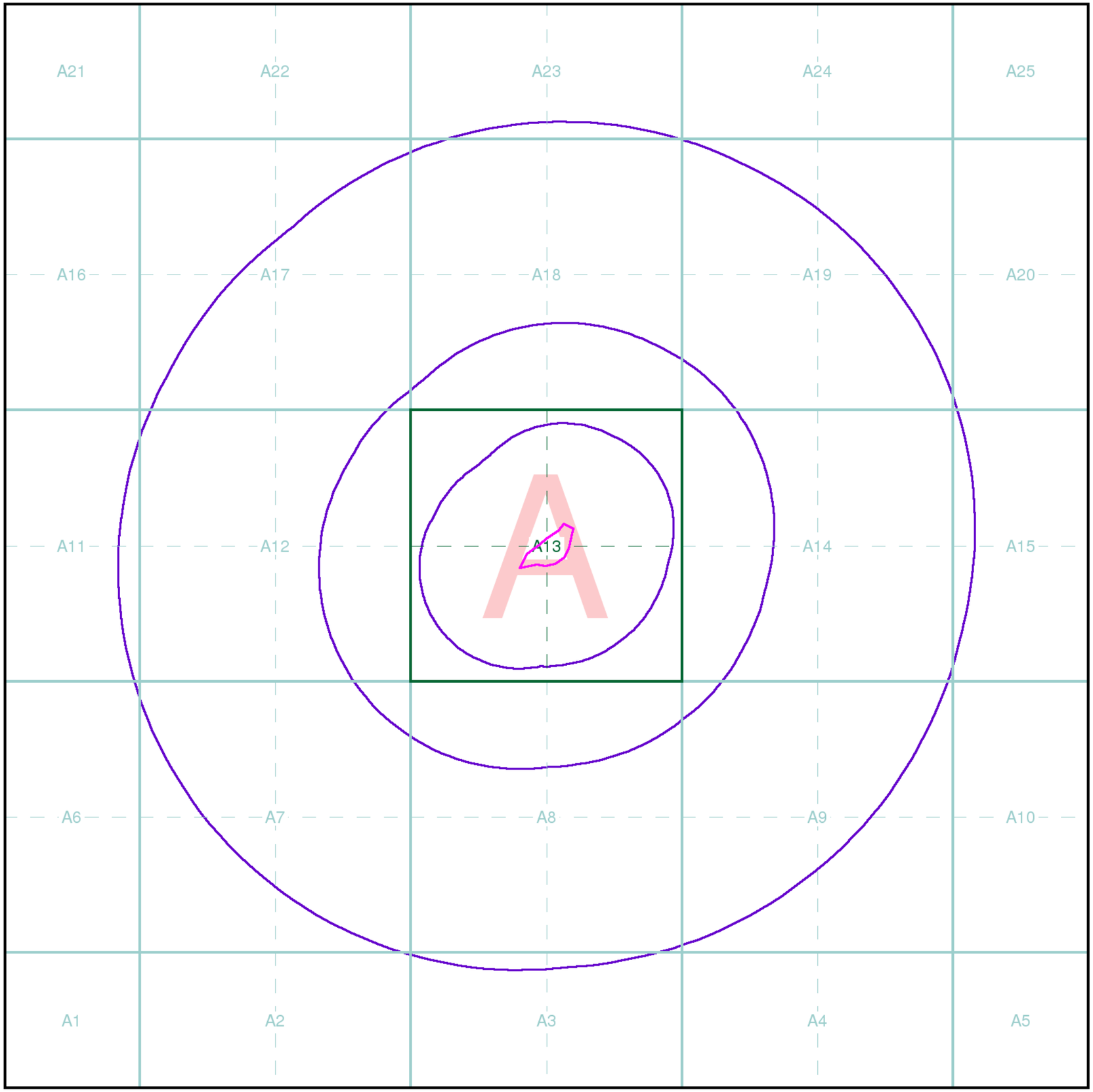
Order Number:	144469394_1_1
Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Search Buffer (m):	1000

Site Details

Site at, Fishguard Harbour, Pembrokeshire

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Index Map

For ease of identification, your site and buffer have been split into Slices, Segments and Quadrants. These are illustrated on the Index Map opposite and explained further below.

Slice
Each slice represents a 1:10,000 plot area (2.7km x 2.7km) for your site and buffer. A large site and buffer may be made up of several slices (represented by a red outline), that are referenced by letters of the alphabet, starting from the bottom left corner of the slice "grid". This grid does not relate to National Grid lines but is designed to give best fit over the site and buffer.

Segment
A segment represents a 1:2,500 plot area. Segments that have plot files associated with them are shown in dark green, others in light blue. These are numbered from the bottom left hand corner within each slice.

Quadrant
A quadrant is a quarter of a segment. These are labelled as NW, NE, SW, SE and are referenced in the datasheet to allow features to be quickly located on plots. Therefore a feature that has a quadrant reference of A7NW will be in Slice A, Segment 7 and the NW Quadrant.

A selection of organisations who provide data within this report:

Map data

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Cyfoeth Naturiol Cymru
Natural Resources Wales

Envirocheck reports are compiled from 136 different sources of data.

Client Details

Mr J McGrath, RPS Consultants, Elmwood House, 74 Boucher Road, Belfast, Antrim, BT12 6RZ

Order Details

Order Number:	144469394_1_1
Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Site Area (Ha):	0.71
Search Buffer (m):	1000

Site Details

Site at, Fishguard Harbour, Pembrokeshire

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General

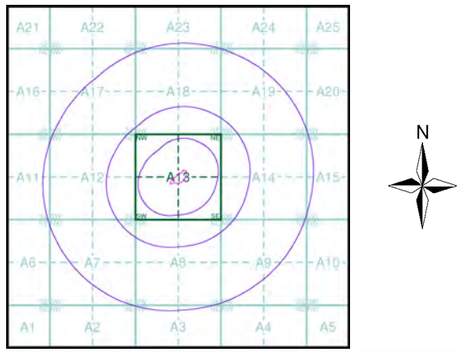
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Arsenic

Arsenic Concentrations mg/kg

- < 15
- 15 - 25
- 25 - 35
- 35 - 45
- 45 - 60
- 60 - 120
- > 120

Estimated Soil Chemistry Arsenic - Slice A



Order Details

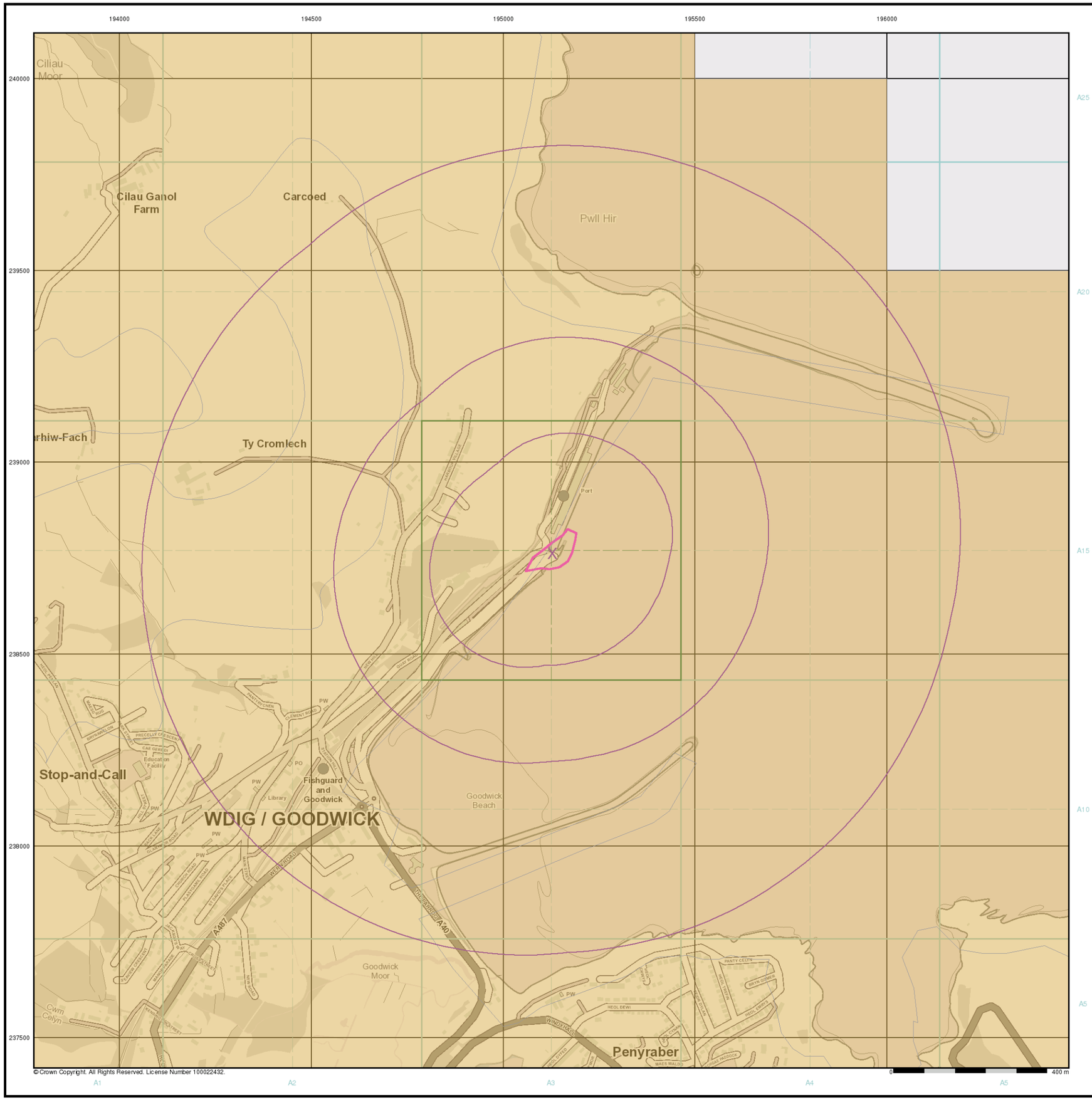
Order Details:	144469394_1_1
Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Search Buffer (m):	1000

Site Details

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RPS

General

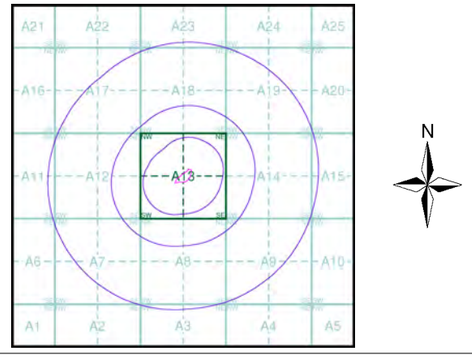
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Cadmium

Cadmium Concentrations mg/kg

- < 1.8
- 1.8 - 2.2
- 2.2 - 3.0
- > 3.0

Estimated Soil Chemistry Cadmium - Slice A



Order Details

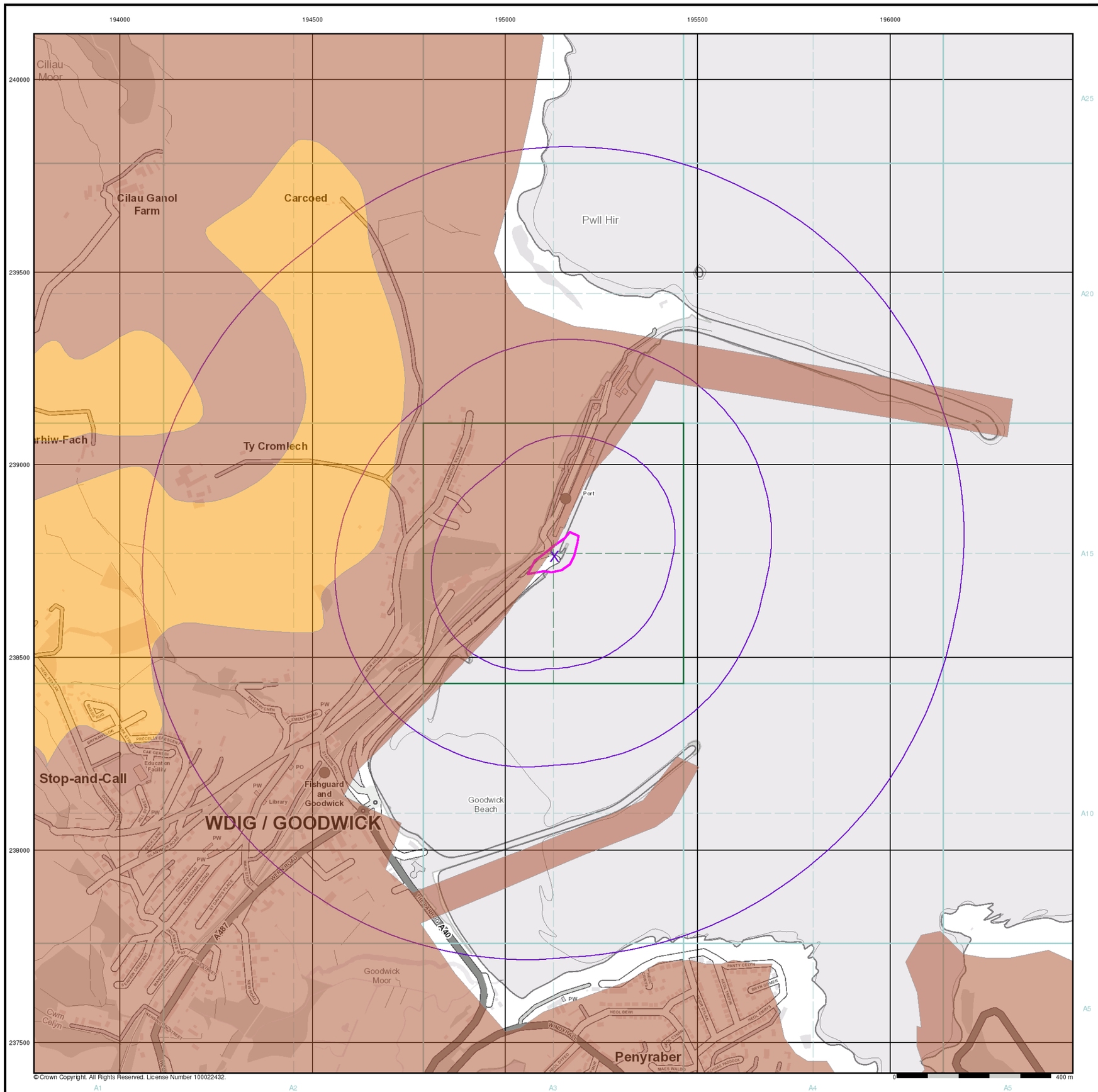
Order Details:	144469394_1_1
Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Search Buffer (m):	1000

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General

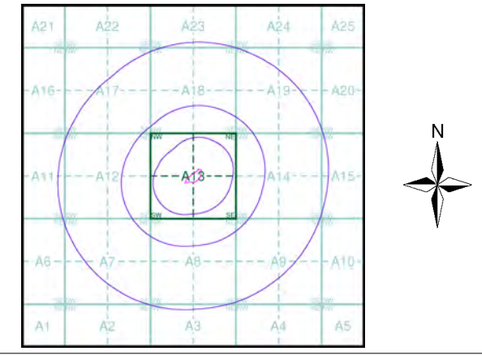
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Chromium

Chromium Concentrations mg/kg

- < 20
- 20 - 40
- 40 - 60
- 60 - 90
- 90 - 120
- 120 - 180
- > 180

Estimated Soil Chemistry Chromium - Slice A



Order Details

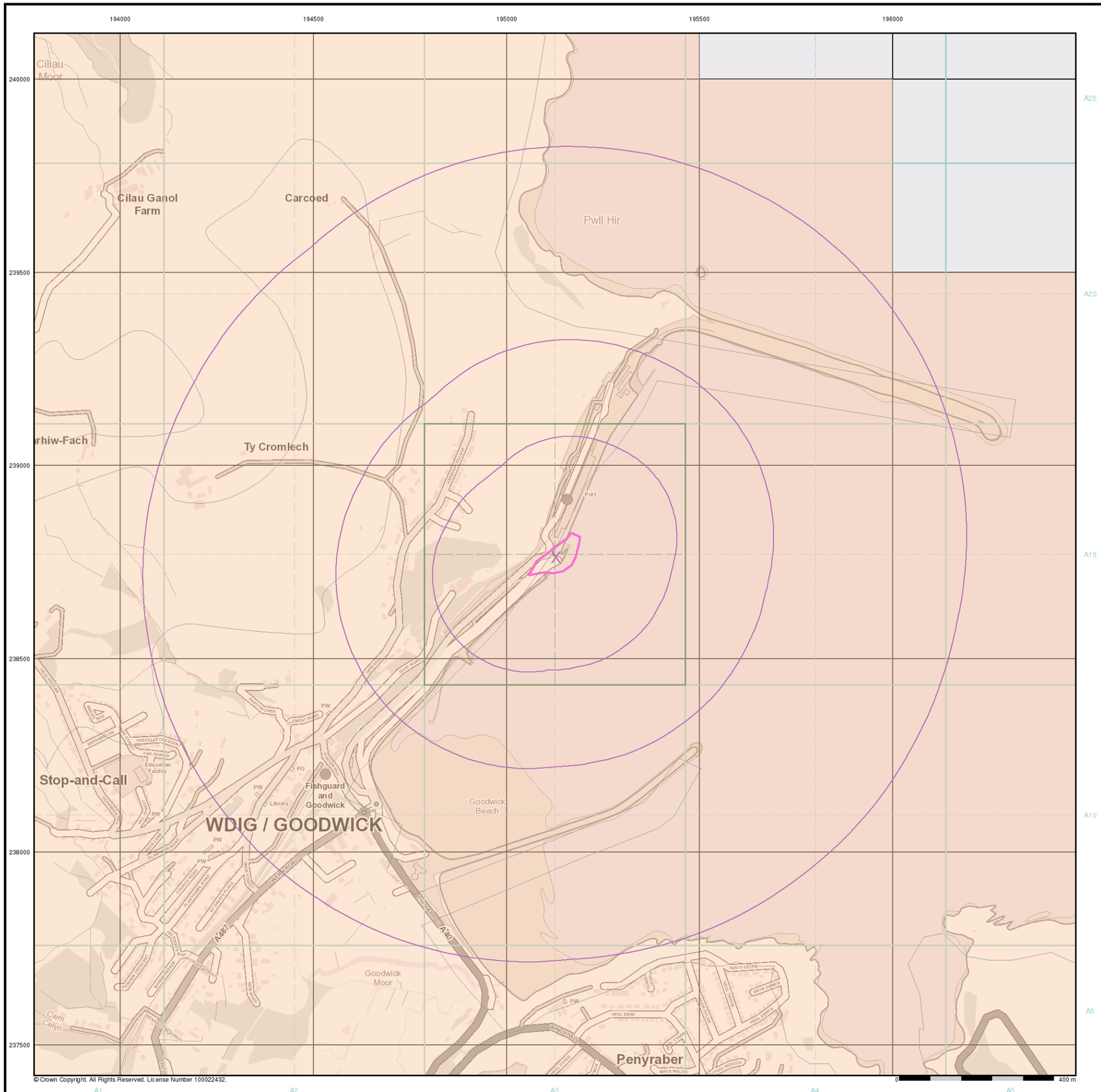
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Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Search Buffer (m):	1000

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RPS

General

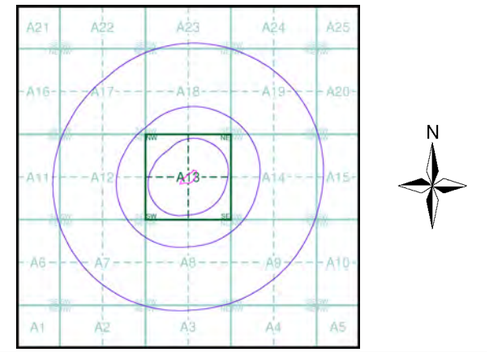
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Lead

Lead Concentrations mg/kg

- <100 mg/kg
- 100 - 200
- 200 - 300
- 300 - 600
- 600 - 1200
- >1200

Estimated Soil Chemistry Lead - Slice A



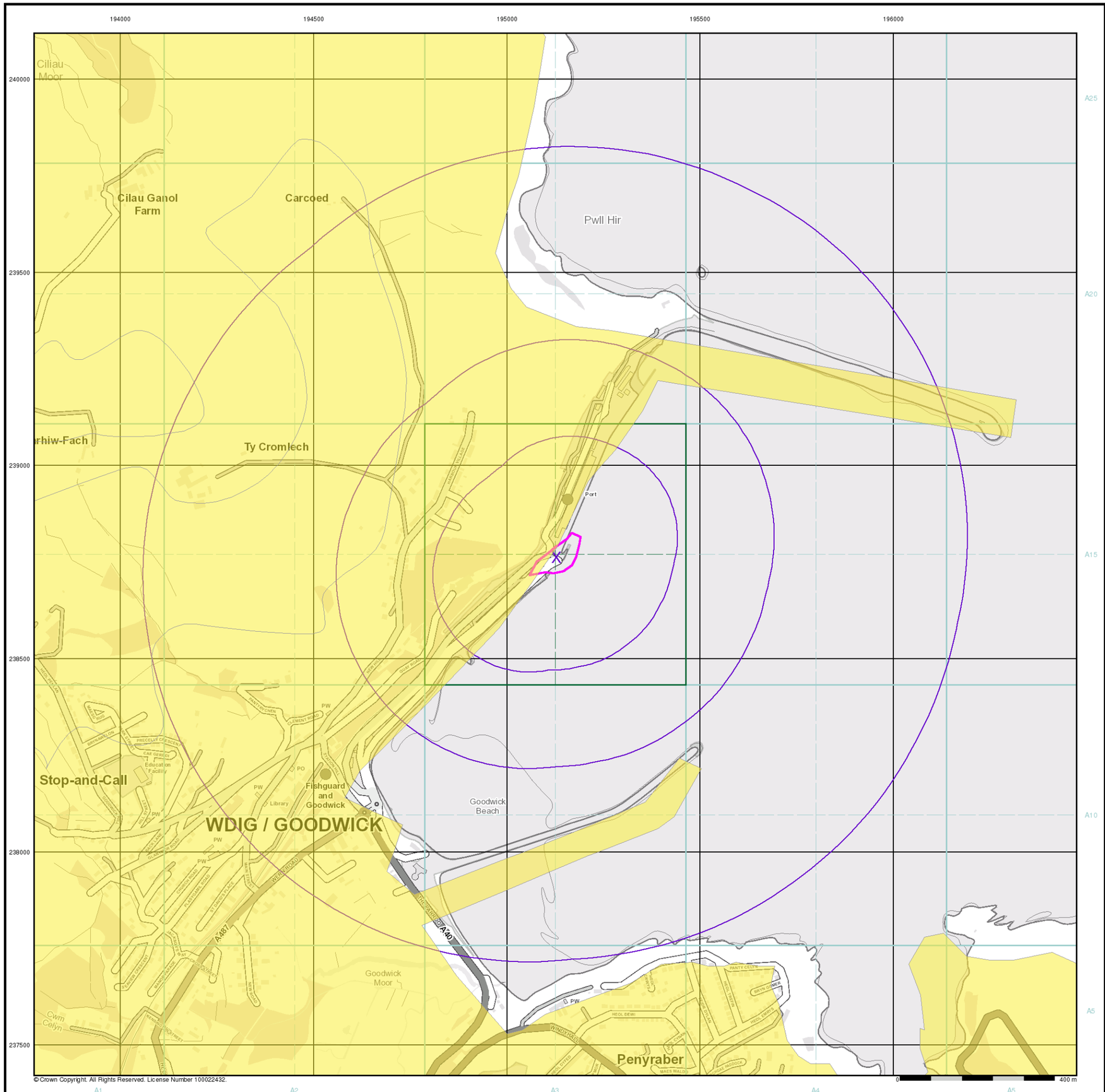
Order Details

Order Details:	144469394_1_1
Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Search Buffer (m):	1000

Site Details

Site at, Fishguard Harbour, Pembrokeshire

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



RPS

General

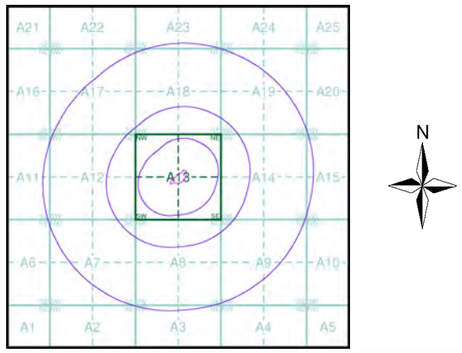
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Nickel

Nickel Concentrations mg/kg

- < 15
- 15 - 30
- 30 - 45
- 45 - 60
- 60 - 80
- 80 - 100
- > 100

Estimated Soil Chemistry Nickel - Slice A



Order Details

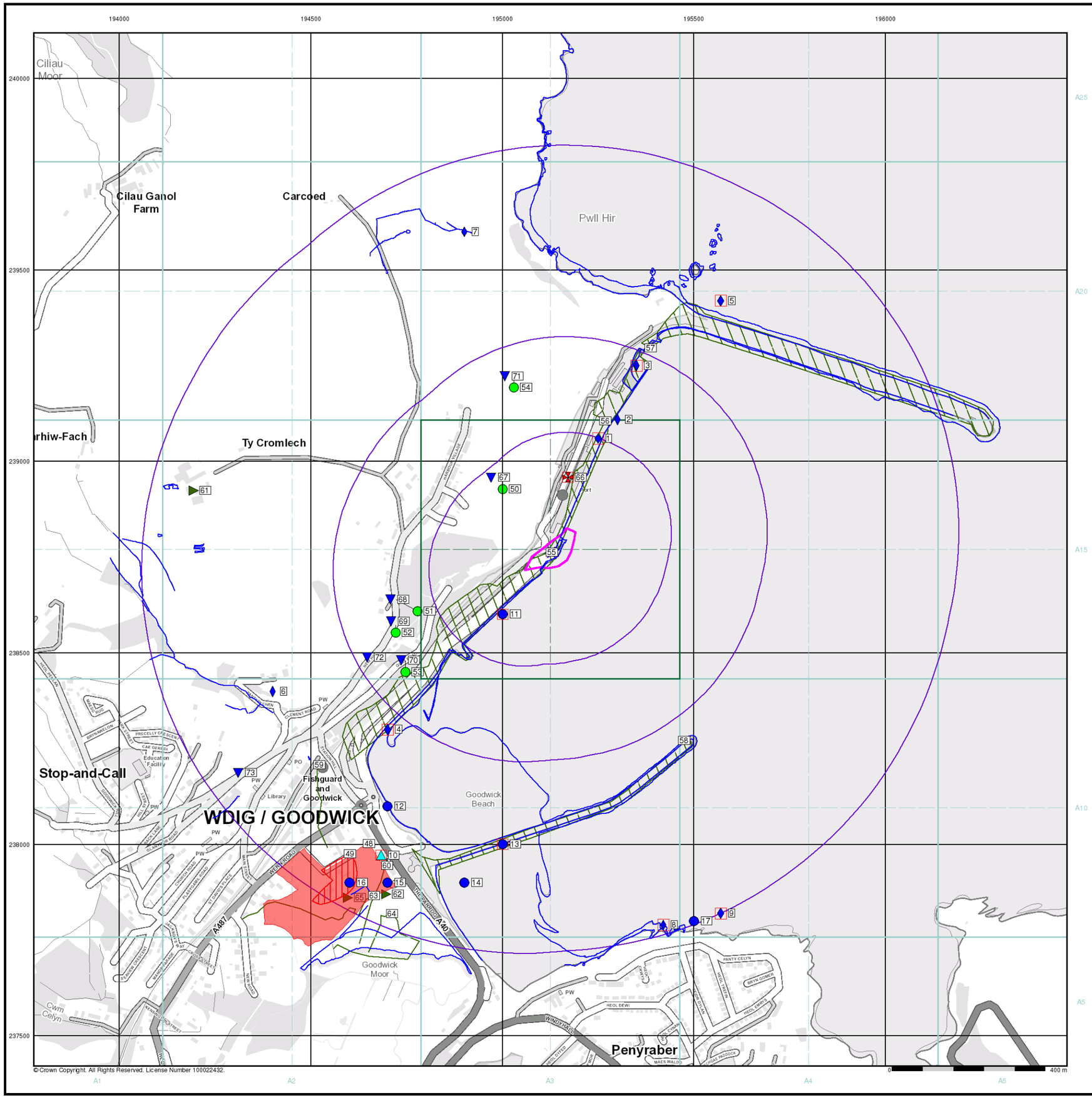
Order Details:	144469394_1_1
Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Search Buffer (m):	1000

Site Details

Site at, Fishguard Harbour, Pembrokeshire

Landmark INFORMATION GROUP

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Fax: 0844 844 9951
Web: www.envirocheck.co.uk



RPS

General

Specified Site
Specified Buffer(s)
Bearing Reference Point
Map ID
Several of Type at Location

Agency and Hydrological

Contaminated Land Register Entry or Notice (Location)
Contaminated Land Register Entry or Notice
Discharge Consent
Enforcement or Prohibition Notice
Integrated Pollution Control
Integrated Pollution Prevention Control
Local Authority Integrated Pollution Prevention and Control
Local Authority Pollution Prevention and Control
Local Authority Pollution Prevention and Control Enforcement
Pollution Incident to Controlled Waters
Prosecution Relating to Authorised Processes
Prosecution Relating to Controlled Waters
Registered Radioactive Substance
River Network or Water Feature
River Quality Sampling Point
Substantiated Pollution Incident Register
Water Abstraction
Water Industry Act Referral

Hazardous Substances

COMAH Site
Explosive Site
NIHHS Site
Planning Hazardous Substance Consent
Planning Hazardous Substance Enforcement

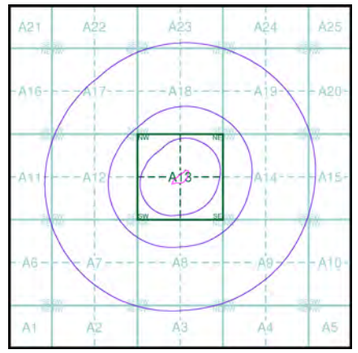
Geological

BGS Recorded Mineral Site

Waste

BGS Recorded Landfill Site (Location)
BGS Recorded Landfill Site
EA Historic Landfill (Buffered Point)
EA Historic Landfill (Polygon)
Integrated Pollution Control Registered Waste Site
Licensed Waste Management Facility (Landfill Boundary)
Licensed Waste Management Facility (Location)
Local Authority Recorded Landfill Site (Location)
Local Authority Recorded Landfill Site
Potentially Infilled Land (Non-water)
Potentially Infilled Land (Non-water)
Potentially Infilled Land (Non-water)
Potentially Infilled Land (Water)
Potentially Infilled Land (Water)
Potentially Infilled Land (Water)
Registered Landfill Site
Registered Landfill Site (Location)
Registered Landfill Site (Point Buffered to 100m)
Registered Landfill Site (Point Buffered to 250m)
Registered Waste Transfer Site (Location)
Registered Waste Transfer Site
Registered Waste Treatment or Disposal Site (Location)
Registered Waste Treatment or Disposal Site

Site Sensitivity Map - Slice A



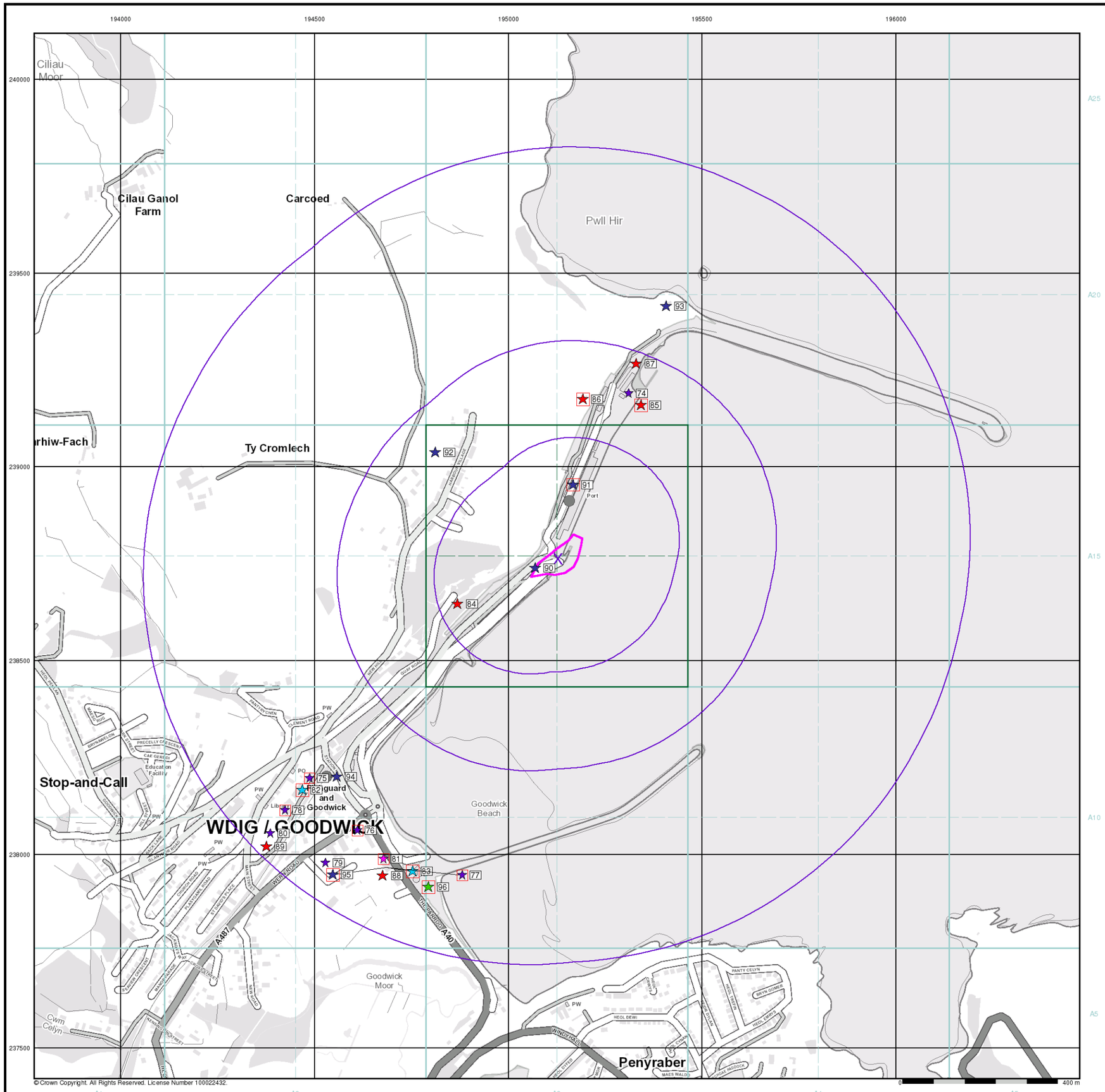
Order Details

Order Number:	144469394_1_1
Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Search Buffer (m):	1000

Site Details

Site at, Fishguard Harbour, Pembrokeshire

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



RPS

Industrial Land Use Map

General

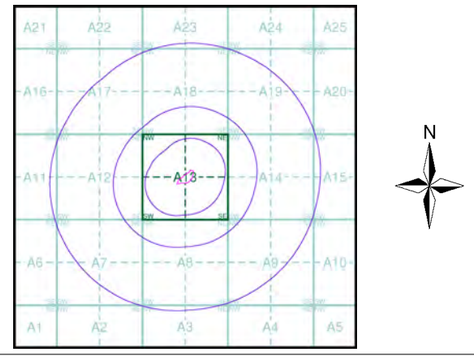
Specified Site | Specified Buffer(s) | Bearing Reference Point

Slice | Map ID

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry
- Gas Pipeline
- Points of Interest - Commercial Services
- Points of Interest - Education and Health
- Points of Interest - Manufacturing and Production
- Points of Interest - Public Infrastructure
- Points of Interest - Recreational and Environmental
- Underground Electrical Cables

Industrial Land Use Map - Slice A



Order Details

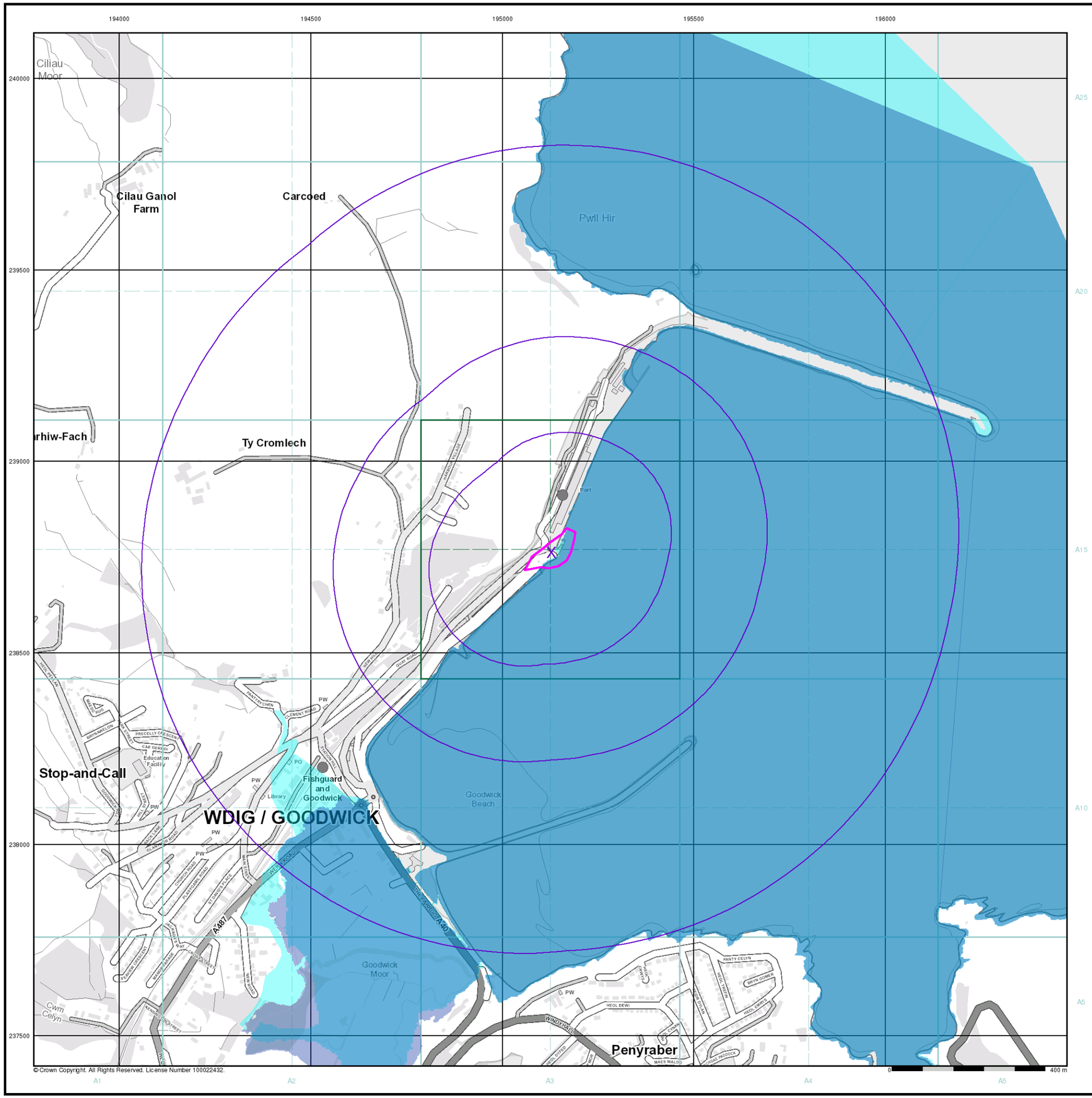
Order Number:	144469394_1_1
Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Search Buffer (m):	1000

Site Details

Site at, Fishguard Harbour, Pembrokeshire

Landmark INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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RPS

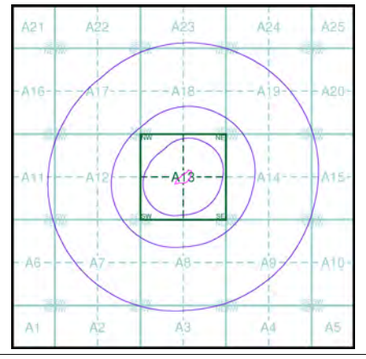
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Agency and Hydrological (Flood)

- Extreme Flooding from Rivers or Sea without Defences (Zone 2)
- Flooding from Rivers or Sea without Defences (Zone 3)
- Area Benefiting from Flood Defence
- Flood Water Storage Areas
- Flood Defence

Flood Map - Slice A



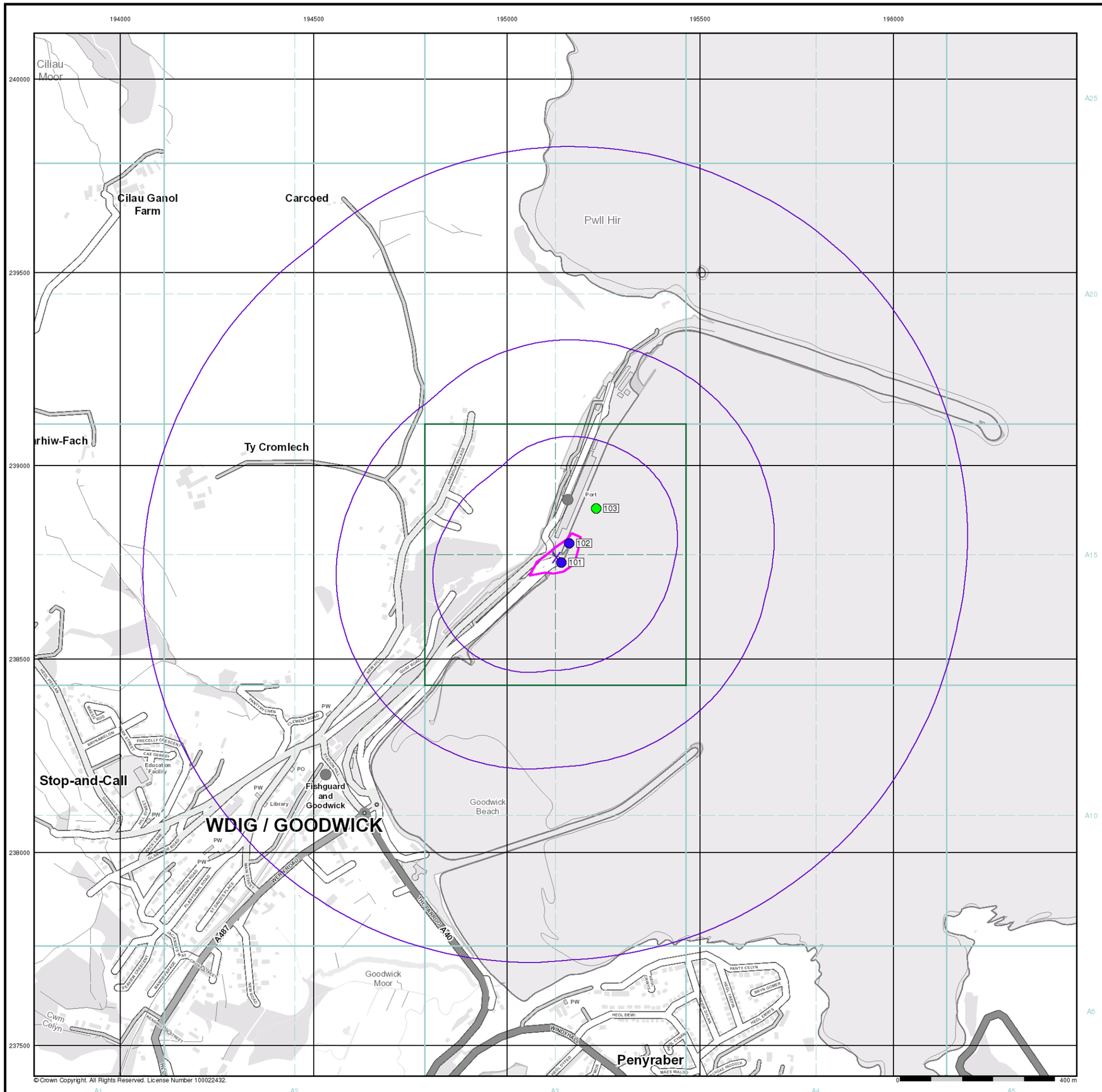
Order Details

Order Number:	144469394_1_1
Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Search Buffer (m):	1000

Site Details

Site at, Fishguard Harbour, Pembrokeshire

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



RPS

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location

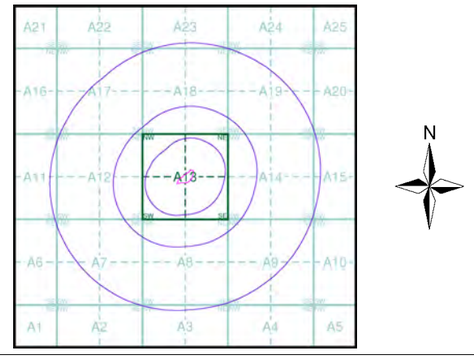
Agency and Hydrological (Boreholes)

- BGS Borehole Depth 0 - 10m
- BGS Borehole Depth 10 - 30m
- BGS Borehole Depth 30m +
- Confidential
- Other

For Borehole information please refer to the Borehole .csv file which accompanied this slice.

A copy of the BGS Borehole Ordering Form is available to download from the Support section of www.envirocheck.co.uk.

Borehole Map - Slice A



Order Details

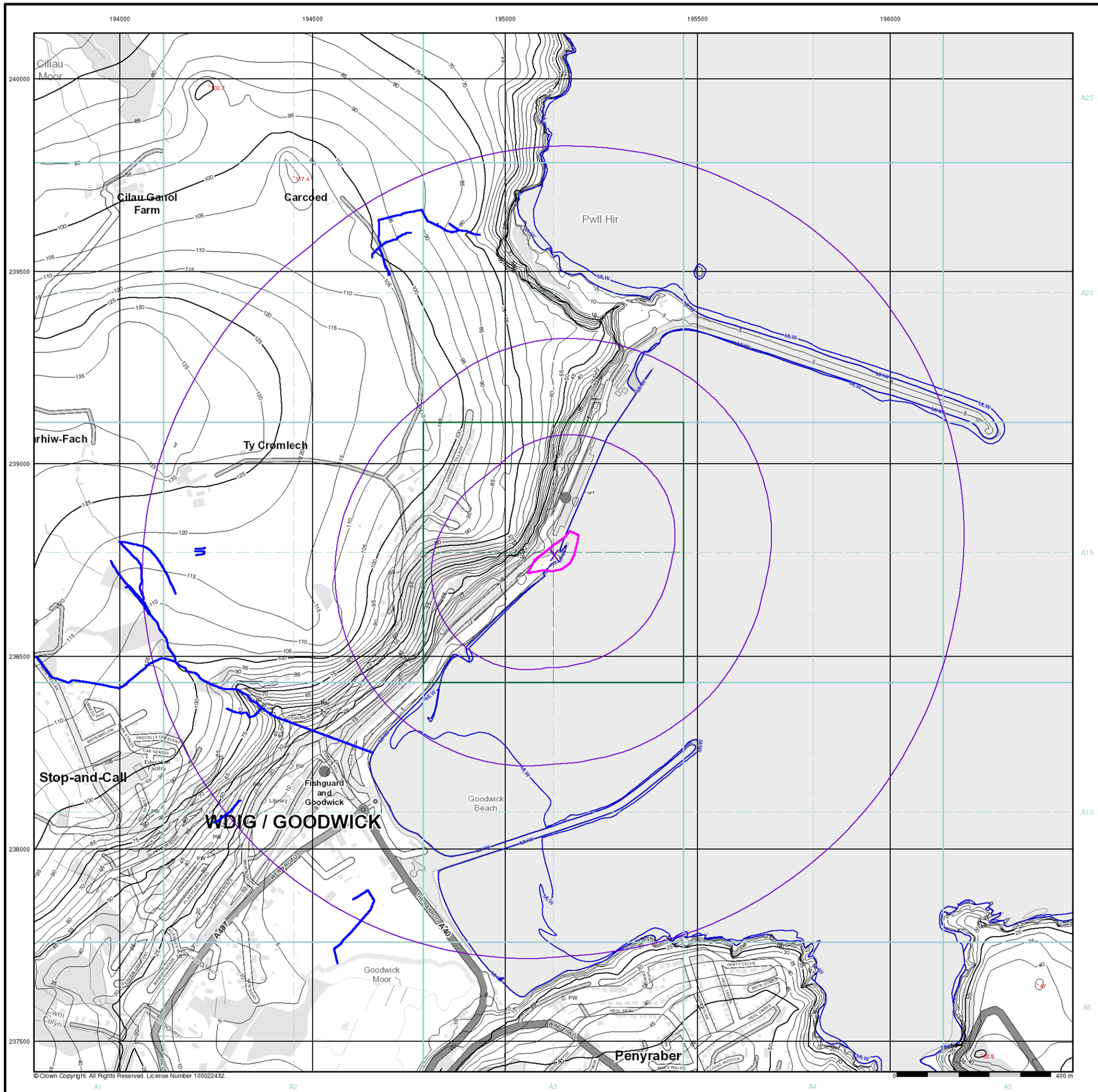
Order Number:	144469394_1_1
Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Search Buffer (m):	1000

Site Details

Site at, Fishguard Harbour, Pembrokeshire

Landmark INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



RPS

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

OS Water Network Data

- Canal
- Reservoir
- Foreshore
- Marsh
- Tidal River
- Inland River
- Drain
- Other
- Lake
- Transfer
- Lock Or Flight Of Locks
- Sea

Contours (height in meters)

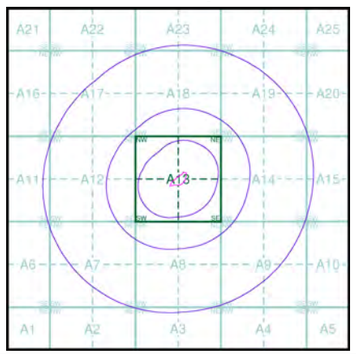
Standard Contour 105

Master Contour 100

Spot Height 167.3

- MLW Mean Low Water
- MHW Mean High Water

OS Water Network Map - Slice A



Order Details

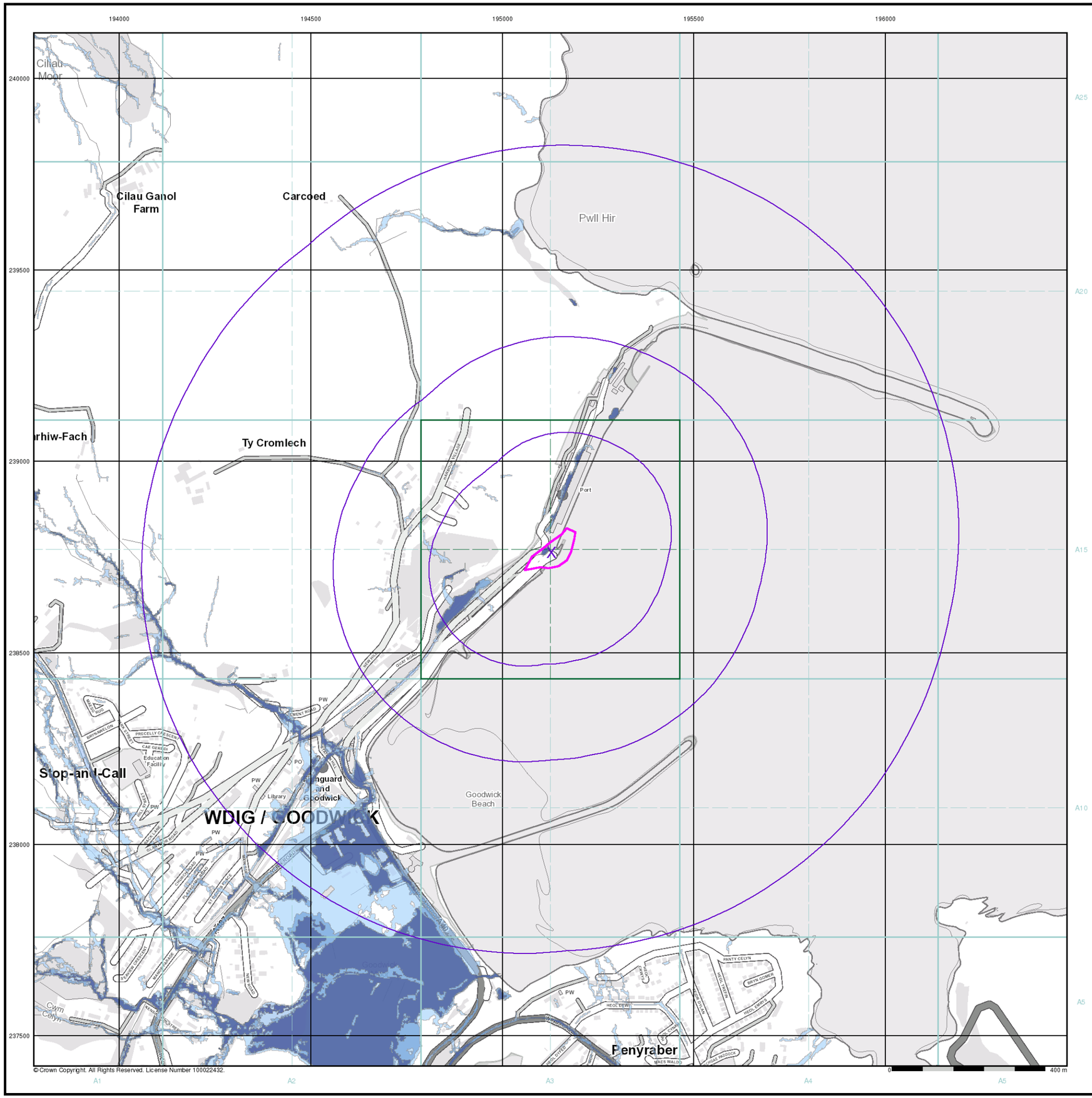
Order Number:	144469394_1_1
Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Search Buffer (m):	1000

Site Details

Site at, Fishguard Harbour, Pembrokeshire

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RPS

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Risk of Flooding from Surface Water

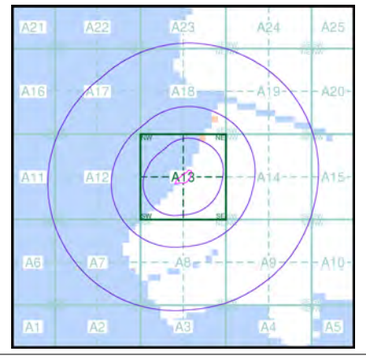
- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

Suitability

See the suitability map below

- National to county
- County to town
- Town to street
- Street to parcels of land
- Property

EA/NRW Suitability Map - Slice A



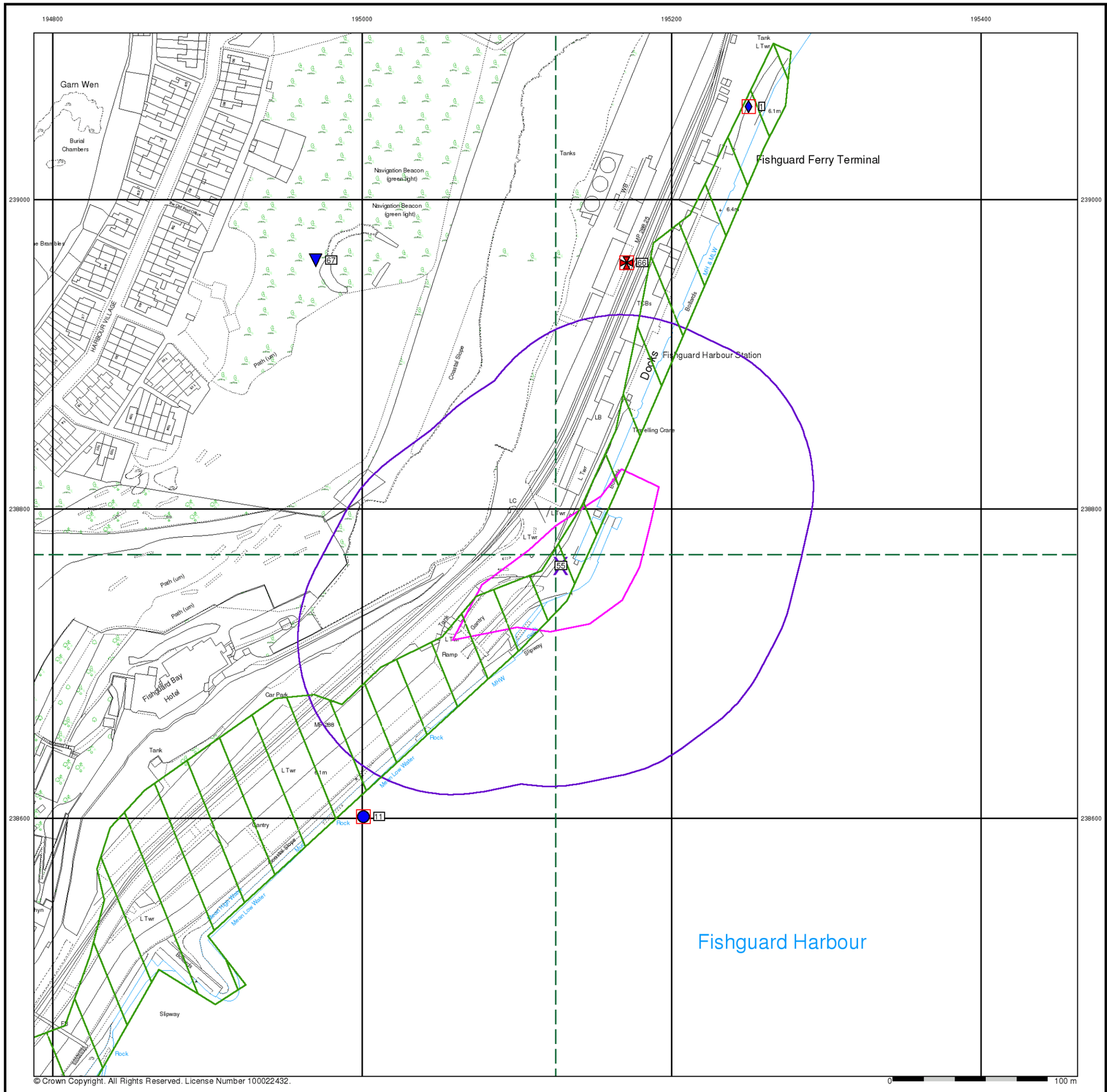
Order Details

Order Number:	144469394_1_1
Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Search Buffer (m):	1000

Site Details

Site at, Fishguard Harbour, Pembrokeshire

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Fax: 0844 844 9951
Web: www.envirocheck.co.uk



RPS

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location
- Pylon
- Overhead Transmission Line

Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
- Pollution Incident to Controlled Waters
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

Waste

- BGS Recorded Landfill Site (Location)
- BGS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Polygon)
- Integrated Pollution Control Registered Waste Site
- Licensed Waste Management Facility (Landfill Boundary)
- Licensed Waste Management Facility (Location)
- Local Authority Recorded Landfill Site (Location)
- Local Authority Recorded Landfill Site
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

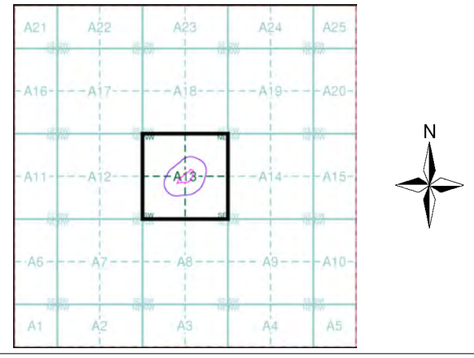
Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

Geological

- BGS Recorded Mineral Site

Site Sensitivity Map - Segment A13



Order Details

Order Number:	144469394_1_1
Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Plot Buffer (m):	100

Site Details

Site at, Fishguard Harbour, Pembrokeshire

Landmark INFORMATION GROUP

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Fax: 0844 844 9951
Web: www.envirocheck.co.uk

Envirocheck® Report:

Datasheet

Order Details:

Order Number:
144469394_1_1

Customer Reference:
IBR1023

National Grid Reference:
195130, 238760

Slice:
A

Site Area (Ha):
0.71

Search Buffer (m):
1000

Site Details:

Site at
Fishguard Harbour
Pembrokeshire

Client Details:

Mr J McGrath
RPS Consultants
Elmwood House
74 Boucher Road
Belfast
Antrim
BT12 6RZ

Contents

Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	14
Hazardous Substances	16
Geological	17
Industrial Land Use	21
Sensitive Land Use	25
Data Currency	26
Data Suppliers	30
Useful Contacts	31

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination.
For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.

In the attached datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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Report Version v53.0

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes	Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1		2	3	18
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 7				3
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 7	Yes			
Pollution Incidents to Controlled Waters	pg 7		2		8
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality					
River Quality Biology Sampling Points					
Substantiated Pollution Incident Register					
River Quality Chemistry Sampling Points					
Water Abstractions					
Water Industry Act Referrals					
Groundwater Vulnerability	pg 9	Yes	n/a	n/a	n/a
Drift Deposits			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 9	Yes	n/a	n/a	n/a
Superficial Aquifer Designations			n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences	pg 9	Yes		n/a	n/a
Flooding from Rivers or Sea without Defences	pg 9	Yes		n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 9				30

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites	pg 14				1
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)					
Local Authority Landfill Coverage	pg 14	1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites	pg 14				1
Potentially Infilled Land (Non-Water)	pg 14		1	4	
Potentially Infilled Land (Water)	pg 14	1		1	9
Registered Landfill Sites					
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites					
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites	pg 16		2		
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology			n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 17	Yes		Yes	Yes
BGS Recorded Mineral Sites	pg 17		1	5	1
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas			n/a	n/a	n/a
Mining Instability			n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain	pg 18	Yes	Yes	n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 19	Yes	Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 19	Yes	Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 19	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 19	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 19		Yes	n/a	n/a
Radon Potential - Radon Affected Areas	pg 20	Yes	n/a	n/a	n/a
Radon Potential - Radon Protection Measures	pg 20	Yes	n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 21			1	13
Fuel Station Entries	pg 22				2
Points of Interest - Commercial Services	pg 22				7
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 23		1	5	2
Points of Interest - Public Infrastructure	pg 23		3	1	5
Points of Interest - Recreational and Environmental	pg 24				2
Gas Pipelines					
Underground Electrical Cables					

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland	pg 25			1	
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas	pg 25	1			
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks	pg 25				1
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones					
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation	pg 25	1			
Special Protection Areas					
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NE (N)	0	1	195129 238800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (NE)	0	1	195129 238763
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SW (W)	0	1	195100 238763
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SW (SW)	61	1	195000 238700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NE (W)	369	1	194700 238800
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NE (W)	383	1	194700 238850
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SE (W)	410	1	194650 238763
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NE (NW)	427	1	194700 238950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (N)	445	1	195300 239250
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SE (W)	459	1	194600 238750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A8NW (S)	466	1	195050 238250
1	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Crane Sps Fishguard Harbour Fishgu, Fishguard Harbour Fishguard Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: BP0063401 Permit Version: 2 Effective Date: 13th January 1993 Issued Date: 13th October 1992 Revocation Date: 15th August 1996 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Coastal Waters Of Fishguard Ha **Status:** **Authorisation revokedRevoked** Positional Accuracy: Located by supplier to within 100m	A13NE (N)	249	2	195250 239060
1	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Crane Sps Fishguard Harbour Fishgu, Fishguard Harbour Fishguard Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: Bp0063401 Permit Version: 1 Effective Date: 21st September 1987 Issued Date: 21st September 1987 Revocation Date: 12th January 1993 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Coastal Waters Of Fishguard Ha **Status:** **Authorisation revokedRevoked** Positional Accuracy: Located by supplier to within 10m	A13NE (N)	249	2	195250 239060

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
2	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Crane Sps Fishguard Harbour Fishgu, Fishguard Harbour Fishguard Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: Bp0063401 Permit Version: 3 Effective Date: 16th August 1996 Issued Date: 15th August 1996 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: Coastal Waters Of Fishguard Ha **Status: Varied by Application - (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A18SE (NE)	314	2	195300 239110
3	**Discharge Consents** Operator: Stena Line Ports Ltd Property Type: Support Services - Sea Transport Location: The Port Workshops Fishguard Harbou, Fishguard Harbour Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: BP0061801 Permit Version: 2 Effective Date: 13th January 1993 Issued Date: 13th October 1992 Revocation Date: Not Supplied Discharge Type: Unspecified Discharge Environment: Controlled Sea Receiving Water: Coastal Waters Cardigan Bay **Status: New Consent, by Application (Water Resources Act 1991, Section 88)** Positional Accuracy: Located by supplier to within 100m	A18SE (NE)	462	2	195350 239250
3	**Discharge Consents** Operator: Stena Line Ports Ltd Property Type: Support Services - Sea Transport Location: The Port Workshops Fishguard Harbou, Fishguard Harbour Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: Bp0061801 Permit Version: 1 Effective Date: 12th October 1987 Issued Date: 12th October 1987 Revocation Date: 12th January 1993 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Coastal Waters Cardigan Bay **Status: Authorisation revokedRevoked** Positional Accuracy: Located by supplier to within 10m	A18SE (NE)	462	2	195350 239250
4	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Goodwick Cso Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: BP0064201 Permit Version: 2 Effective Date: 13th January 1993 Issued Date: 13th October 1992 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Controlled Sea Receiving Water: Coastal Waters Cardigan Bay **Status: New Consent, by Application (Water Resources Act 1991, Section 88)** Positional Accuracy: Located by supplier to within 100m	A7NE (SW)	549	2	194700 238300

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
4	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Goodwick Cso Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: Bp0064201 Permit Version: 1 Effective Date: 9th October 1987 Issued Date: 9th October 1987 Revocation Date: 12th January 1993 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Coastal Waters Cardigan Bay **Status: Authorisation revokedRevoked** Positional Accuracy: Located by supplier to within 100m	A7NE (SW)	549	2	194700 238300
5	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewage Disposal Works - Water Company Location: Fishguard Stw Fishguard Harbour Goo, Fishguard Harbour Goodwick Fishg, Goodwick Fishguard Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: Bp0261001 Permit Version: 4 Effective Date: 31st March 2010 Issued Date: 31st March 2010 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Coastal Waters Of Fishguard Ba **Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	715	2	195570 239420
5	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewage Disposal Works - Water Company Location: Fishguard Stw Fishguard Harbour Goo, Fishguard Harbour Goodwick Fishg, Goodwick Fishguard Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: Bp0261001 Permit Version: 3 Effective Date: 1st January 2010 Issued Date: 24th September 2009 Revocation Date: 30th March 2010 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Coastal Waters Of Fishguard Ba **Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	715	2	195570 239420
5	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewage Disposal Works - Water Company Location: Fishguard Stw Fishguard Harbour Goo, Fishguard Harbour Goodwick Fishg, Goodwick Fishguard Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: Bp0261001 Permit Version: 2 Effective Date: 31st December 2005 Issued Date: 31st December 2005 Revocation Date: 31st December 2009 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Coastal Waters Of Fishguard Ba **Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	715	2	195570 239420

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewage Disposal Works - Water Company Location: Fishguard Stw Fishguard Harbour Goo, Fishguard Harbour Goodwick Fishg, Goodwick Fishguard Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: BP0261001 Permit Version: 1 Effective Date: 15th August 1996 Issued Date: 15th August 1996 Revocation Date: 20th January 2006 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Not Supplied Receiving Water: Coastal Waters Of Fishguard Ba **Status:** **New Consent, by Application (Water Resources Act 1991, Section 88)** Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	715	2	195570 239420
6	**Discharge Consents** Operator: The Occupier Property Type: Undefined Or Other Location: Pant-Yr-Ychain Goodwick Dyfed. Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bn0180801 Permit Version: 1 Effective Date: 20th December 1978 Issued Date: 20th December 1978 Revocation Date: 10th October 1994 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: To Land **Status:** **Consent expired** Positional Accuracy: Located by supplier to within 100m	A7NW (SW)	731	2	194400 238400
7	**Discharge Consents** Operator: Bishop K Property Type: Undefined Or Other Location: Sea View Seafront Fishguard. Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bn0295001 Permit Version: 1 Effective Date: 25th June 1985 Issued Date: 25th June 1985 Revocation Date: 18th November 1992 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Underground Strata **Status:** **Consent expired** Positional Accuracy: Located by supplier to within 100m	A18NW (N)	820	2	194900 239600
8	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Ogof Martha Ps Marine Walk Penyrabe, Marine Walk, Penyraber Estate, Fishguard Pembrokeshire Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: Bp0232401 Permit Version: 5 Effective Date: 28th April 2010 Issued Date: 28th March 2009 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Controlled Sea Receiving Water: Coastal W'Rs Fishguard Harbour **Status:** **Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A8SE (S)	966	2	195420 237800

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
8	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Ogof Martha Ps Marine Walk Penyrabe, Marine Walk, Penyraber Estate, Fishguard Pembrokeshire Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: Bp0232401 Permit Version: 5 Effective Date: 28th April 2010 Issued Date: 28th March 2009 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Controlled Sea Receiving Water: Coastal W'Rs Fishguard Harbour **Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A8SE (S)	966	2	195420 237800
8	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Ogof Martha Ps Marine Walk Penyrabe, Marine Walk, Penyraber Estate, Fishguard Pembrokeshire Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: Bp0232401 Permit Version: 4 Effective Date: 27th March 2009 Issued Date: 27th March 2009 Revocation Date: 27th April 2010 Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Controlled Sea Receiving Water: Coastal W'Rs Fishguard Harbour **Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A8SE (S)	966	2	195420 237800
8	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Ogof Martha Ps Marine Walk Penyrabe, Marine Walk, Penyraber Estate, Fishguard Pembrokeshire Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: Bp0232401 Permit Version: 3 Effective Date: 26th March 2009 Issued Date: 31st March 2005 Revocation Date: 26th March 2009 Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Controlled Sea Receiving Water: Coastal W'Rs Fishguard Harbour **Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A8SE (S)	966	2	195420 237800
8	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Ogof Martha Ps Marine Walk Penyrabe, Marine Walk, Penyraber Estate, Fishguard Pembrokeshire Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: Bp0232401 Permit Version: 2 Effective Date: 1st October 1996 Issued Date: 9th September 1996 Revocation Date: 30th March 2009 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Coastal Waters Of Fishguard Ha **Status: Varied by Application - (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A8SE (S)	966	2	195420 237800

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
8	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Ogof Martha . . Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Bp0111301 Permit Version: 1 Effective Date: 13th December 1991 Issued Date: 13th December 1991 Revocation Date: 5th July 1995 Discharge Type: Unspecified Discharge Environment: Controlled Sea Receiving Water: Sea **Status: Consent expired** Positional Accuracy: Located by supplier to within 10m	A8SE (S)	975	2	195420 237790
8	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Sewers - Water Company Location: Ogof Martha S.D.P. Fishguard Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: Bp0043802 Permit Version: 1 Effective Date: 22nd October 1987 Issued Date: 22nd October 1987 Revocation Date: 5th July 1995 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Coastal Waters 85m From Cliff **Status: Consent expired** Positional Accuracy: Located by supplier to within 10m	A8SE (S)	996	2	195390 237760
9	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewage Disposal Works - Water Company Location: Ogof Martha Treatment Plant Pontcel, Pontcelyn Fishguard Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: BP0232403 Permit Version: 1 Effective Date: 19th October 1994 Issued Date: 19th October 1994 Revocation Date: 31st March 2006 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Coastal Waters **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A9SW (SE)	1000	2	195570 237820
9	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewerage Network - Pumping Station - Water Company Location: Ogof Martha Ps Marine Walk Penyrabe, Marine Walk, Penyraber Estate, Fishguard Pembrokeshire Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: BP0232401 Permit Version: 1 Effective Date: 27th May 1994 Issued Date: 27th May 1994 Revocation Date: 30th September 1996 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Coastal Waters Of Fishguard Ha **Status: Authorisation revokedRevoked** Positional Accuracy: Located by supplier to within 10m	A9SW (SE)	1000	2	195570 237820

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
9	**Discharge Consents** Operator: Dwr Cymru Cyfyngedig Property Type: Sewage Disposal Works - Water Company Location: Ogof Martha Treatment Plant Pontcel, Pontcelyn Fishguard Authority: Natural Resources Wales Catchment Area: Boundary Of HA 61 & HA 62 Reference: BP0232402 Permit Version: 1 Effective Date: 26th May 1994 Issued Date: 26th May 1994 Revocation Date: 31st March 2006 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Fishguard Bay **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 100m	A9SW (SE)	1000	2	195570 237820
10	**Local Authority Pollution Prevention and Controls** Name: Fishguard Harbour Garage Location: The Parrog, GOODWICK, Dyfed, SA64 0DE Authority: Pembrokeshire County Council, Environmental Health Department Permit Reference: PPC/07/1.2(VR) Dated: 29th May 2006 Process Type: Local Authority Pollution Prevention and Control Description: PG1/14 Petrol filling station **Status: Authorisation revokedRevoked** Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	821	3	194678 237988
10	**Local Authority Pollution Prevention and Controls** Name: Seafront Garage Location: The Parrog, FISHGUARD, Dyfed, SA64 0DE Authority: Pembrokeshire County Council, Environmental Health Department Permit Reference: EP/20/1.2 Dated: 16th March 2006 Process Type: Local Authority Pollution Prevention and Control Description: PG1/14 Petrol filling station **Status: Permitted** Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	821	3	194678 237988
10	**Local Authority Pollution Prevention and Controls** Name: Mr Godfrey Location: Seafront Garage, The Parrog, GOODWICK, Dyfed, SA64 0DE Authority: Pembrokeshire County Council, Environmental Health Department Permit Reference: 16 Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG1/1Waste oil burners, less than 0.4MW net rated thermal input **Status: Authorisation revokedRevoked** Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	837	3	194683 237968
	Nearest Surface Water Feature	A13SW (SW)	0	-	195115 238738
11	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Coast At, GOODWICK Authority: Environment Agency, Welsh Region Pollutant: Heavy Fuel Oil Note: Deliberate Incident Date: 25th June 1997 Incident Reference: 32864 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Direct Discharge Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	128	4	195001 238601
11	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Coast At, GOODWICK Authority: Environment Agency, Welsh Region Pollutant: Heavy Fuel Oil Note: Goodwick Harbour; Direct Introduction Incident Date: 25th June 1997 Incident Reference: 32864 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Deliberate Act Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	133	4	195001 238596

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
12	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Culvert Discharging Onto Beach Authority: Environment Agency, Welsh Region Pollutant: Oils - Petrol Note: Goodwick Fishguard Bay; Burst Incident Date: 2nd July 1997 Incident Reference: 32880 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Weather Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7NE (SW)	713	4	194700 238100
13	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Goodwick Beach, GOODWICK Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Not Supplied Incident Date: 30th August 1991 Incident Reference: 822 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8SW (S)	717	4	195001 238001
13	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Goodwick Beach Authority: Environment Agency, Welsh Region Pollutant: Algae Note: Not Supplied Incident Date: 4th June 1997 Incident Reference: 32445 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Natural Causes Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8SW (S)	722	4	195001 237996
13	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Goodwick Beach Authority: Environment Agency, Welsh Region Pollutant: Algae Note: Goodwick Beach; Natural Occurrence Incident Date: 4th June 1997 Incident Reference: 32445 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8SW (S)	722	4	195006 237996
14	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Right Hand Side Of Breakwater Authority: Environment Agency, Welsh Region Pollutant: Oils - Diesel (Including Agricultural) Note: Parrog Beach At Goodwick; Leakage Incident Date: 6th November 1997 Incident Reference: 34026 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Mechanical/Electrical Plant Failure Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8SW (S)	831	4	194900 237900
15	**Pollution Incidents to Controlled Waters** Property Type: Private Sewage (Non-PLC): Other Location: Scout Hut Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Deliberate Act Incident Date: 11th July 1995 Incident Reference: 24910 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Direct Discharge Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7SE (SW)	891	4	194700 237900

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
16	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Beach At, GOODWICK Authority: Environment Agency, Welsh Region Pollutant: Oils - Petrol Note: Unnamed Steam Draining To Parrog Goodwik; Leakage Incident Date: 17th October 1997 Incident Reference: 33896 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7SE (SW)	936	4	194600 237900
17	**Pollution Incidents to Controlled Waters** Property Type: Water Company Sewage: Storm Overflow Location: Fishguard Bay, FISHGUARD Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Not Supplied Incident Date: 5th December 1991 Incident Reference: 3647 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Direct Discharge Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A9SW (S)	991	4	195500 237800
	Groundwater Vulnerability Soil Classification: Not classified Map Sheet: Sheet 34 Pembroke Scale: 1:100,000	A13SE (E)	0	4	195146 238757
	Groundwater Vulnerability Soil Classification: Not classified Map Sheet: Sheet 34 Pembroke Scale: 1:100,000	A13SE (NE)	0	4	195129 238763
	Drift Deposits None				
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - B	A13NW (NW)	0	1	195117 238772
	Superficial Aquifer Designations No Data Available				
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (NE)	0	2	195137 238769
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	0	2	195135 238748
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
18	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 271.8 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A7NE (SW)	615	5	194657 238250
19	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 40.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A7NW (SW)	755	5	194402 238344

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
20	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 266.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A7NW (SW)	774	5	194368 238367
21	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 111.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A7NW (SW)	774	5	194368 238367
22	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 51.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A18NW (N)	805	5	194935 239595
23	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 78.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A17NE (NW)	814	5	194699 239491
24	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 63.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A18NW (N)	830	5	194886 239606
25	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 35.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A18NW (N)	830	5	194886 239606
26	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 51.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A12NW (W)	841	5	194220 238771
27	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 24.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A12NW (W)	841	5	194221 238782
28	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 246.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A18NW (N)	863	5	194826 239618

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
29	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A18NW (N)	863	5	194826 239618
30	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 32.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A17NE (NW)	877	5	194655 239537
31	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 5.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 2	A17NE (NW)	878	5	194755 239600
32	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 83.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 2	A17NE (NW)	880	5	194715 239582
33	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A17NE (NW)	886	5	194674 239561
34	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A17NE (NW)	888	5	194677 239565
35	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A17NE (NW)	888	5	194677 239565
36	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 215.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A12SW (W)	916	5	194144 238662
37	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 75.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A7SE (SW)	922	5	194644 237893

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
38	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 25.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A7SE (SW)	938	5	194660 237867
39	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 142.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A12SW (W)	942	5	194143 238498
40	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 445.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A12SW (W)	945	5	194143 238486
41	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 91.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A7NW (SW)	951	5	194314 238125
42	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.5 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A7SE (SW)	964	5	194651 237842
43	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 175.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A7SE (SW)	968	5	194648 237839
44	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 100.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A11SE (W)	986	5	194078 238608
45	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 36.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A11SE (W)	986	5	194078 238608
46	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 183.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A11SE (W)	999	5	194062 238651

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
47	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 137.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nevern and Tributaries Primacy: 1	A11SE (W)	1000	5	194062 238640

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
48	**Historical Landfill Sites** Licence Holder: Preseli Pembrokeshire District Council Location: Goodwick Name: Wern Road Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD14380 First Input Date: 31st December 1940 Last Input Date: 31st December 1974 Specified Waste Type: Deposited Waste included Inert, Industrial, Commercial and Household Waste EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 6845/0086 BGS Ref: Not Supplied Other Ref: Not Supplied	A7SE (SW)	822	2	194652 238002
	Local Authority Landfill Coverage Name: Pembrokeshire County Council - Has supplied landfill data		0	3	195129 238763
49	**Local Authority Recorded Landfill Sites** Location: Goodwick Municipal Site, Wern Road, Goodwick Reference: Not Supplied Authority: Pembrokeshire County Council, Environmental Health Department **Last Reported Status: Closed** Types of Waste: Not Supplied Date of Closure: Not Supplied Positional Accuracy: Positioned by the supplier Boundary Quality: Moderate	A7SE (SW)	870	3	194602 237975
50	**Potentially Infilled Land (Non-Water)** Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1975	A13NW (NW)	205	-	195001 238952
51	**Potentially Infilled Land (Non-Water)** Bearing Ref: W Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1977	A12SE (W)	345	-	194723 238639
52	**Potentially Infilled Land (Non-Water)** Bearing Ref: SW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1977	A12SE (SW)	367	-	194721 238573
53	**Potentially Infilled Land (Non-Water)** Bearing Ref: SW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1977	A12SE (SW)	391	-	194747 238480
54	**Potentially Infilled Land (Non-Water)** Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1975	A18SW (N)	414	-	195030 239216
55	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1891	A13SE (NE)	0	-	195129 238763
56	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A13NE (NE)	301	-	195276 239106
57	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1891	A18SE (NE)	519	-	195387 239296
58	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A9NW (SE)	560	-	195474 238271
59	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1891	A7NE (SW)	740	-	194521 238207
60	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A7SE (SW)	835	-	194700 237962

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
61	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A12NW (W)	894	-	194190 238924
62	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A7SE (SW)	921	-	194692 237870
63	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A7SE (SW)	936	-	194666 237866
64	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A7SE (SW)	962	-	194712 237819
65	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A7SE (SW)	974	-	194593 237861

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
66	**Explosive Sites** Name: Fishguard Harbour/Stena Line Ltd Location: Fishguard Harbour, Goodwick, Dyfed, Sa64 0bx **Status:** **Active** Positional Accuracy: Manually positioned to the address or location	A13NE (N)	93	6	195179 238917
66	**Explosive Sites** Name: Fishguard/Stena Sealink Ltd Location: Fishguard Harbour, Fishguard, Pembrokeshire **Status:** **Active** Positional Accuracy: Manually positioned within the geographical locality	A13NE (N)	134	6	195171 238959

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NW (NW)	0	1	195117 238772
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: no data Cadmium Concentration: <1.8 mg/kg Chromium Concentration: no data Lead Concentration: <100 mg/kg Nickel Concentration: no data	A13SE (NE)	0	1	195129 238763
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A12NE (W)	393	1	194687 238849
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A17SW (W)	940	1	194215 239130
67	**BGS Recorded Mineral Sites** Site Name: Garn Wen Location: , Goodwick, Fishguard, Pembrokeshire Source: British Geological Survey, National Geoscience Information Service Reference: 89008 Type: Opencast **Status: Ceased** Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Ordovician Geology: Fishguard Volcanic Group Commodity: Igneous and Metamorphic Rock Positional Accuracy: Located by supplier to within 10m	A13NW (NW)	233	1	194970 238962
68	**BGS Recorded Mineral Sites** Site Name: New Hill Cottage Location: , Goodwick, Fishguard, Pembrokeshire Source: British Geological Survey, National Geoscience Information Service Reference: 88999 Type: Opencast **Status: Ceased** Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Ordovician Geology: Fishguard Volcanic Group Commodity: Sand and Gravel Positional Accuracy: Located by supplier to within 10m	A12SE (W)	359	1	194707 238644

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
69	**BGS Recorded Mineral Sites** Site Name: Gro Wen Location: , Goodwick, Fishguard, Pembrokeshire Source: British Geological Survey, National Geoscience Information Service Reference: 89000 Type: Opencast **Status: Ceased** Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Ordovician Geology: Fishguard Volcanic Group Commodity: Sand and Gravel Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	373	1	194709 238587
70	**BGS Recorded Mineral Sites** Site Name: Penrhyn Location: , Goodwick, Fishguard, Pembrokeshire Source: British Geological Survey, National Geoscience Information Service Reference: 89002 Type: Opencast **Status: Ceased** Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Ordovician Geology: Fishguard Volcanic Group Commodity: Igneous and Metamorphic Rock Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	398	1	194735 238485
71	**BGS Recorded Mineral Sites** Site Name: Garn Wen Location: , Goodwick, Fishguard, Pembrokeshire Source: British Geological Survey, National Geoscience Information Service Reference: 89007 Type: Opencast **Status: Ceased** Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Ordovician Geology: Fishguard Volcanic Group Commodity: Sand and Gravel Positional Accuracy: Located by supplier to within 10m	A18SW (N)	433	1	195006 239227
72	**BGS Recorded Mineral Sites** Site Name: Pant-Yr-Ychain Location: , Goodwick, Fishguard, Pembrokeshire Source: British Geological Survey, National Geoscience Information Service Reference: 89001 Type: Opencast **Status: Ceased** Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Ordovician Geology: Fishguard Volcanic Group Commodity: Sand and Gravel Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	469	1	194646 238493
73	**BGS Recorded Mineral Sites** Site Name: Goodwick Location: Goodwick Hill, Goodwick, Fishguard, Pembrokeshire Source: British Geological Survey, National Geoscience Information Service Reference: 89003 Type: Opencast **Status: Ceased** Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Ordovician Geology: Fishguard Volcanic Group Commodity: Igneous and Metamorphic Rock Positional Accuracy: Located by supplier to within 10m	A7NW (SW)	914	1	194310 238191
	BGS Measured Urban Soil Chemistry No data available				
	BGS Urban Soil Chemistry Averages No data available				
	Coal Mining Affected Areas In an area that might not be affected by coal mining				
	Non Coal Mining Areas of Great Britain Risk: Highly Unlikely Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	0	1	195117 238772

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Non Coal Mining Areas of Great Britain Risk: Highly Unlikely Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	59	1	195000 238763
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (NE)	0	1	195129 238763
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	59	1	195000 238763
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (NE)	0	1	195129 238763
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	25	1	195084 238790
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	59	1	195000 238730
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	61	1	195000 238763
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (NE)	0	1	195129 238763
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	59	1	195000 238763
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (NE)	0	1	195129 238763
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	37	1	195039 238755
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	59	1	195000 238763
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	60	1	195000 238730
	Potential for Landslide Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	112	1	195000 238831
	Potential for Landslide Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	112	1	195005 238838
	Potential for Landslide Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	164	1	194905 238660
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (NE)	0	1	195129 238763
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	25	1	195084 238790
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	59	1	195000 238730
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	61	1	195000 238763
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (NE)	0	1	195129 238763

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	7	1	195111 238715
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	59	1	195000 238763
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	108	1	195000 238626
	Radon Potential - Radon Affected Areas Affected Area: The property is an Intermediate probability radon area (3 to 5% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13SE (NE)	0	1	195129 238763
	Radon Potential - Radon Protection Measures Protection Measure: Basic radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13SE (NE)	0	1	195129 238763

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
74	**Contemporary Trade Directory Entries** Name: Stenaline Location: Fishguard Harbour, Goodwick, Dyfed, SA64 0BU Classification: Ports, Docks & Harbours **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (NE)	392	-	195310 239190
75	**Contemporary Trade Directory Entries** Name: Right Price Print Ltd Location: Unit 10, Goodwick Industrial Estate, Main Street, Goodwick, Dyfed, SA64 0BD Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	772	-	194487 238197
75	**Contemporary Trade Directory Entries** Name: Goodwick Location: Unit 7, Goodwick Industrial Estate, Main Street, GOODWICK, Dyfed, SA64 0BD Classification: Mot Testing Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	802	-	194468 238172
76	**Contemporary Trade Directory Entries** Name: Motor Service Repairs Location: The Parrog, Goodwick, Dyfed, SA64 0DE Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A7SE (SW)	773	-	194659 238054
76	**Contemporary Trade Directory Entries** Name: Goodwick Marine Location: 1, Wern Road, Goodwick, Dyfed, SA64 0AA Classification: Chandlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	793	-	194611 238062
76	**Contemporary Trade Directory Entries** Name: Fishguard Harbour Garage Location: The Parrog, Goodwick, Dyfed, SA64 0DE Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	798	-	194644 238034
77	**Contemporary Trade Directory Entries** Name: Fishguard Harbour Garage Location: The Parrog, Goodwick, Dyfed, SA64 0DE Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Manually positioned to an adjacent address or location	A7SE (SW)	816	-	194667 238000
77	**Contemporary Trade Directory Entries** Name: Seafront Garage Location: The Parrog, Goodwick, Dyfed, SA64 0DE Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	837	-	194684 237967
77	**Contemporary Trade Directory Entries** Name: Seafront Garage Location: The Parrog, Goodwick, Dyfed, SA64 0DE Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	837	-	194684 237967
78	**Contemporary Trade Directory Entries** Name: Jenkins Motors Location: Unit 4, Goodwick Industrial Estate, Main Street, Goodwick, Dyfed, SA64 0BD Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	828	-	194454 238150
78	**Contemporary Trade Directory Entries** Name: Ceramore Location: Unit 3, Goodwick Industrial Estate, Main Street, Goodwick, Dyfed, SA64 0BD Classification: Ceramic Manufacturers, Supplies & Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	854	-	194439 238128

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
78	**Contemporary Trade Directory Entries** Name: Seaguard Marine Engineering Ltd Location: Unit 2 Goodwick Indust Est,Main St, Goodwick, Dyfed, SA64 0BD Classification: Marine Engineers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7NW (SW)	875	-	194424 238114
79	**Contemporary Trade Directory Entries** Name: Fishguard Transport Co Location: Wern Rd, Goodwick, Dyfed, SA64 0AA Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	909	-	194528 237978
80	**Contemporary Trade Directory Entries** Name: Dewhirst Ladieswear Ltd Location: Unit 1/3, Goodwick Industrial Estate, Main Street, Goodwick, Dyfed, SA64 0BD Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SW (SW)	943	-	194386 238054
81	**Fuel Station Entries** Name: Fishguard Harbour Garage Location: The Parrog, GOODWICK, Dyfed, SA64 0DE Brand: Murco Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	821	-	194678 237988
81	**Fuel Station Entries** Name: Seafront Garage Location: The Parrog, Goodwick, Dyfed, SA64 0DE Brand: Murco Premises Type: Petrol Station **Status: Open** Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	836	-	194686 237967
82	**Points of Interest - Commercial Services** Name: Goodwick Location: Unit 7 Goodwick Industrial Estate, Main Street, Goodwick, SA64 0BD Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NE (SW)	802	7	194468 238172
82	**Points of Interest - Commercial Services** Name: Goodwick Motor Services Location: Unit 7 Goodwick Industrial Estate, Main Street, Goodwick, SA64 0BD Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NE (SW)	802	7	194468 238172
82	**Points of Interest - Commercial Services** Name: Goodwick Motor Services Ltd Location: Unit 7 Goodwick Industrial Estate, Main Street, Goodwick, SA64 0BD Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NE (SW)	803	7	194468 238172
83	**Points of Interest - Commercial Services** Name: Seafront Garage Location: The Parrog, Goodwick, Dyfed, SA64 0DE Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A7SE (SW)	836	7	194686 237967
83	**Points of Interest - Commercial Services** Name: Car Wash Location: The Parrog, Goodwick, SA64 0DE Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A7SE (SW)	836	7	194686 237967
83	**Points of Interest - Commercial Services** Name: Seafront Garage Location: The Parrog, Goodwick, SA64 0DE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7SE (SW)	837	7	194684 237967

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
83	**Points of Interest - Commercial Services** Name: M P W Valeting & Detailing Centre Location: The Parrog, Goodwick, SA64 0DE Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A7SE (SW)	838	7	194684 237966
84	**Points of Interest - Manufacturing and Production** Name: Tank Location: SA64 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13SW (SW)	202	7	194869 238646
85	**Points of Interest - Manufacturing and Production** Name: Tanks Location: SA64 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A18SE (NE)	329	7	195312 239121
85	**Points of Interest - Manufacturing and Production** Name: Tank Location: SA64 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A18SE (NE)	380	7	195342 239163
86	**Points of Interest - Manufacturing and Production** Name: Tank Location: SA64 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A18SE (N)	350	7	195192 239174
86	**Points of Interest - Manufacturing and Production** Name: Tank Location: SA64 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A18SE (N)	378	7	195209 239201
87	**Points of Interest - Manufacturing and Production** Name: Tank Location: SA64 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A18SE (N)	470	7	195330 239266
88	**Points of Interest - Manufacturing and Production** Name: Tank Location: SA64 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	861	7	194676 237945
89	**Points of Interest - Manufacturing and Production** Name: Industrial Estate Location: SA64 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A7SW (SW)	975	7	194376 238020
90	**Points of Interest - Public Infrastructure** Name: Dyfed-Powys Constabulary Location: Fishguard Harbour, Goodwick, SA64 0BY Category: Central and Local Government Class Code: Police Stations Positional Accuracy: Positioned to address or location	A13SW (W)	2	7	195069 238739
91	**Points of Interest - Public Infrastructure** Name: Fishguard Harbour Rail Station Location: SA64 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to address or location	A13NE (N)	129	7	195167 238954
91	**Points of Interest - Public Infrastructure** Name: Fishguard Harbour Station Location: Nr Harbour Village, SA64 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to address or location	A13NE (N)	129	7	195167 238954

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
92	**Points of Interest - Public Infrastructure** Name: Burial Chambers Location: SA64 Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	391	7	194811 239037
93	**Points of Interest - Public Infrastructure** Name: Sewage Works Location: SA64 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A18SE (NE)	636	7	195407 239414
94	**Points of Interest - Public Infrastructure** Name: Fishguard & Goodwick Rail Station Location: Station Hill, SA64 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to address or location	A7NE (SW)	731	7	194541 238200
95	**Points of Interest - Public Infrastructure** Name: Seafront Garage Location: The Parrog, Goodwick, SA64 0DE Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A7SE (SW)	836	7	194686 237967
95	**Points of Interest - Public Infrastructure** Name: Seafront Garage Location: The Parrog, Goodwick, SA64 0DE Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A7SE (SW)	837	7	194684 237967
95	**Points of Interest - Public Infrastructure** Name: Seafront Garage Location: The Parrog, Goodwick, SA64 0DE Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A7SE (SW)	838	7	194684 237966
96	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	842	7	194794 237916
96	**Points of Interest - Recreational and Environmental** Name: Playground Location: The Parrog, SA64 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A8SW (S)	852	7	194798 237905

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
97	**Ancient Woodland** Name: Not Supplied Reference: 47440 Area(m²): 2921.81 Type: Ancient Woodland Site of Unknown Category	A7NE (SW)	440	2	194725 238429
98	**Environmentally Sensitive Areas** Name: Preseli Multiple Areas: Y Total Area (m2): 1187932672 Source: The National Assembly for Wales, GI Services (Department of Planning & Countryside)	A13SE (NE)	0	8	195129 238763
99	**National Parks** Name: Pembrokeshire Coast Multiple Area: Y Area (m2): 187013417.05 Source: Natural Resources Wales **Status: Fully Designated - designated as a National Park** Designation Date: 31st December 1951	A18NW (N)	801	2	194936 239593
100	**Special Areas of Conservation** Name: West Wales Marine / Gorllewin Cymru Forol Multiple Areas: Y Total Area (m2): 7377173871.75 Source: Natural Resources Wales Reference: UK0030397 **Status: Candidate**	A13SE (NE)	0	2	195138 238768

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
Pembrokeshire County Council - Public Protection Division	December 2015	Annual Rolling Update
Discharge Consents		
Environment Agency - Welsh Region	August 2014	Quarterly
Natural Resources Wales	August 2017	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - Welsh Region	March 2013	As notified
Integrated Pollution Controls		
Environment Agency - Welsh Region	October 2008	Not Applicable
Integrated Pollution Prevention And Control		
Natural Resources Wales	August 2017	Quarterly
Environment Agency - Welsh Region	July 2017	Quarterly
Local Authority Integrated Pollution Prevention And Control		
Pembrokeshire County Council - Environmental Health Department	December 2015	Annual Rolling Update
Local Authority Pollution Prevention and Controls		
Pembrokeshire County Council - Environmental Health Department	November 2015	Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements		
Pembrokeshire County Council - Environmental Health Department	December 2015	Annual Rolling Update
Nearest Surface Water Feature		
Ordnance Survey	May 2017	
Pollution Incidents to Controlled Waters		
Environment Agency - Welsh Region	December 1998	Not Applicable
Prosecutions Relating to Authorised Processes		
Environment Agency - Welsh Region	March 2013	As notified
Natural Resources Wales	March 2013	As notified
Prosecutions Relating to Controlled Waters		
Environment Agency - Welsh Region	March 2013	As notified
Natural Resources Wales	March 2013	As notified
Registered Radioactive Substances		
Natural Resources Wales	January 2015	As notified
Environment Agency - Welsh Region	January 2015	
Substantiated Pollution Incident Register		
Natural Resources Wales	August 2018	Quarterly
Environment Agency Wales - South West Area	July 2017	Quarterly
Water Abstractions		
Environment Agency - Welsh Region	July 2017	Quarterly
Natural Resources Wales	July 2017	Quarterly
Water Industry Act Referrals		
Natural Resources Wales	August 2017	Quarterly
Environment Agency - Welsh Region	July 2017	Quarterly
Groundwater Vulnerability		
Environment Agency - Head Office	April 2015	Not Applicable
Drift Deposits		
Environment Agency - Head Office	January 1999	Not Applicable
Bedrock Aquifer Designations		
British Geological Survey - National Geoscience Information Service	August 2015	As notified
Superficial Aquifer Designations		
British Geological Survey - National Geoscience Information Service	August 2015	As notified
Source Protection Zones		
Natural Resources Wales	November 2016	As notified

Agency & Hydrological	Version	Update Cycle
Extreme Flooding from Rivers or Sea without Defences Natural Resources Wales	August 2017	Quarterly
Flooding from Rivers or Sea without Defences Natural Resources Wales	August 2017	Quarterly
Areas Benefiting from Flood Defences Natural Resources Wales	August 2017	Quarterly
Flood Water Storage Areas Natural Resources Wales	August 2017	Quarterly
Flood Defences Natural Resources Wales	August 2017	Quarterly
OS Water Network Lines Ordnance Survey	July 2017	6 Weekly
Surface Water 1 in 30 year Flood Extent Natural Resources Wales	October 2013	As notified
Surface Water 1 in 100 year Flood Extent Natural Resources Wales	October 2013	As notified
Surface Water 1 in 1000 year Flood Extent Natural Resources Wales	October 2013	As notified
Surface Water Suitability Natural Resources Wales	October 2013	As notified
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	Annually
Waste	**Version**	**Update Cycle**
BGS Recorded Landfill Sites British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites Natural Resources Wales	July 2017	Quarterly
Integrated Pollution Control Registered Waste Sites Environment Agency - Welsh Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries) Environment Agency Wales - South West Area Natural Resources Wales	July 2017 July 2017	Quarterly Quarterly
Licensed Waste Management Facilities (Locations) Natural Resources Wales Environment Agency Wales - South West Area	August 2017 July 2017	Quarterly Quarterly
Local Authority Landfill Coverage Pembrokeshire County Council - Environmental Health Department	May 2000	Not Applicable
Local Authority Recorded Landfill Sites Pembrokeshire County Council - Environmental Health Department	May 2000	Not Applicable
Potentially Infilled Land (Non-Water) Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water) Landmark Information Group Limited	December 1999	Not Applicable
Registered Landfill Sites Environment Agency Wales - South West Area	March 2003	Not Applicable
Registered Waste Transfer Sites Environment Agency Wales - South West Area	March 2003	Not Applicable
Registered Waste Treatment or Disposal Sites Environment Agency Wales - South West Area	March 2003	Not Applicable

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH)		
Health and Safety Executive	September 2017	Bi-Annually
Explosive Sites		
Health and Safety Executive	March 2017	Bi-Annually
Notification of Installations Handling Hazardous Substances (NIHHS)		
Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements		
Pembrokeshire Coast National Park Authority - Development Control	February 2016	Annual Rolling Update
Pembrokeshire County Council - Planning Department	October 2015	Annual Rolling Update
Planning Hazardous Substance Consents		
Pembrokeshire Coast National Park Authority - Development Control	February 2016	Annual Rolling Update
Pembrokeshire County Council - Planning Department	October 2015	Annual Rolling Update
Geological	**Version**	**Update Cycle**
BGS 1:625,000 Solid Geology		
British Geological Survey - National Geoscience Information Service	January 2009	Not Applicable
BGS Estimated Soil Chemistry		
British Geological Survey - National Geoscience Information Service	October 2015	As notified
BGS Recorded Mineral Sites		
British Geological Survey - National Geoscience Information Service	April 2017	Bi-Annually
CBSCB Compensation District		
Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	Not Applicable
Coal Mining Affected Areas		
The Coal Authority - Property Searches	March 2014	As notified
Mining Instability		
Ove Arup & Partners	October 2000	Not Applicable
Non Coal Mining Areas of Great Britain		
British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Compressible Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Ground Dissolution Stability Hazards		
British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Landslide Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Running Sand Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	June 2015	Annually
Radon Potential - Radon Affected Areas		
British Geological Survey - National Geoscience Information Service	July 2011	As notified
Radon Potential - Radon Protection Measures		
British Geological Survey - National Geoscience Information Service	July 2011	As notified

Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	September 2017	Quarterly
Fuel Station Entries Catalist Ltd - Experian	August 2017	Quarterly
Gas Pipelines National Grid	July 2014	Quarterly
Points of Interest - Commercial Services PointX	September 2017	Quarterly
Points of Interest - Education and Health PointX	September 2017	Quarterly
Points of Interest - Manufacturing and Production PointX	September 2017	Quarterly
Points of Interest - Public Infrastructure PointX	September 2017	Quarterly
Points of Interest - Recreational and Environmental PointX	September 2017	Quarterly
Underground Electrical Cables National Grid	December 2015	Bi-Annually
Sensitive Land Use	**Version**	**Update Cycle**
Ancient Woodland Natural Resources Wales	May 2017	Bi-Annually
Areas of Outstanding Natural Beauty Natural Resources Wales	August 2017	Bi-Annually
Environmentally Sensitive Areas The National Assembly for Wales - GI Services (Department of Planning & Countryside)	January 2017	Annually
Forest Parks Forestry Commission	April 1997	Not Applicable
Local Nature Reserves Pembrokeshire County Council	August 2017	Bi-Annually
Marine Nature Reserves Natural Resources Wales	August 2017	Bi-Annually
National Nature Reserves Natural Resources Wales	August 2017	Bi-Annually
National Parks Natural Resources Wales	August 2017	Annually
Nitrate Vulnerable Zones Natural Resources Wales The National Assembly for Wales - GI Services (Department of Planning & Countryside)	June 2017 October 2005	Bi-Annually
Ramsar Sites Natural Resources Wales	August 2017	Bi-Annually
Sites of Special Scientific Interest Natural Resources Wales	August 2017	Bi-Annually
Special Areas of Conservation Natural Resources Wales	August 2017	Bi-Annually
Special Protection Areas Natural Resources Wales	August 2017	Bi-Annually

Data Suppliers

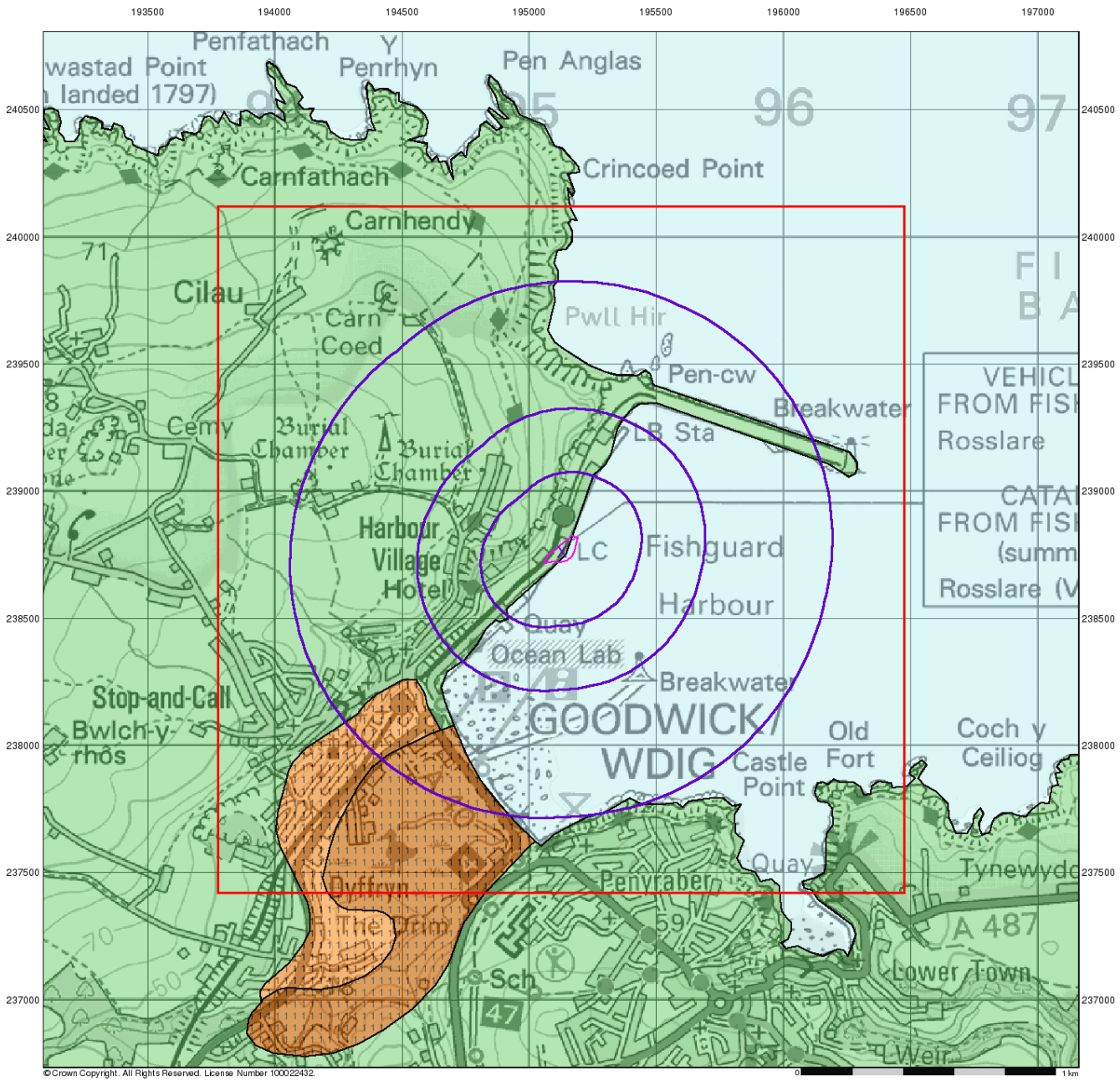
A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	
Centre for Ecology and Hydrology	
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Peter Brett Associates	

Useful Contacts

Contact	Name and Address	Contact Details
1	**British Geological Survey - Enquiry Service** British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	**Natural Resources Wales** Ty Cambria, 29 Newport Road, Cardiff, CF24 0TP	Telephone: 0300 065 3000 Email: enquiries@naturalresourceswales.gov.uk
3	**Pembrokeshire County Council - Environmental Health Department** Public Protection Division, Pembrokeshire County Council, County Hall, Haverfordwest, Pembrokeshire, SA61 1TP	Telephone: 01437 764551 Fax: 01437 775838 Website: www.pembrokeshire.gov.uk
4	**Environment Agency - National Customer Contact Centre (NCCC)** PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
5	**Ordnance Survey** Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 023 8079 2000 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
6	**Health and Safety Executive** 5S.2 Redgrave Court, Merton Road, Bootle, L20 7HS	Website: www.hse.gov.uk
7	**PointX** 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
8	**The National Assembly for Wales - GI Services (Department of Planning & Countryside)** Yr Hen Ysgol Gymraeg, Alexandria Road, Aberystwyth, Ceredigion, SY23 1LD	Telephone: 02920 825111 Website: www.wales.gov.uk
-	**Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards** Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	**Landmark Information Group Limited** Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.



RPS

Groundwater Vulnerability

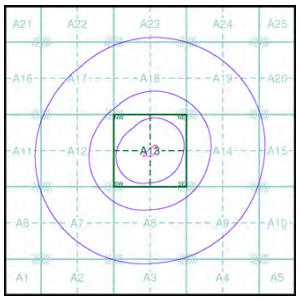
General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

Geological Classes	Soil Classes
Major Aquifer (Highly Permeable)	High (H) 1, 2, 3, U
	Intermediate (I) 1, 2
	Low
Minor Aquifer (Variably Permeable)	High (H) 1, 2, 3, U
	Intermediate (I) 1, 2
	Low
Non Aquifer (Negligibly Permeable)	
Water or Sea	
Drift Deposit	

Site Sensitivity Context Map - Slice A



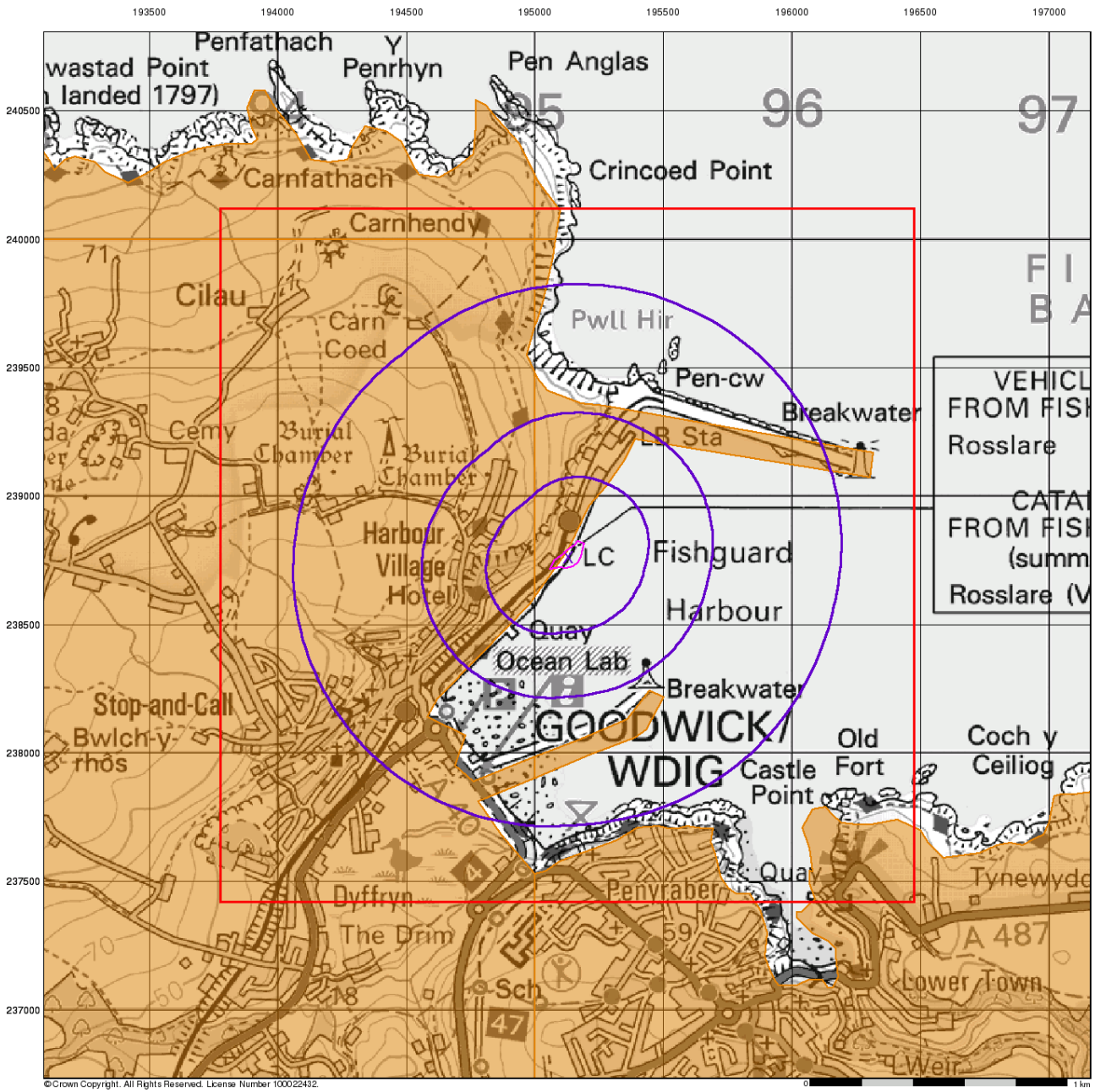
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Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Search Buffer (m):	1000

Site Details

Site at, Fishguard Harbour, Pembrokeshire

Landmark INFORMATION GROUP
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Web: www.envirocheck.co.uk



RPS

Bedrock Aquifer Designation

General

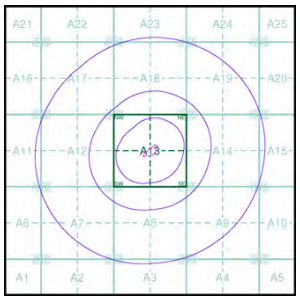
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A



Order Details

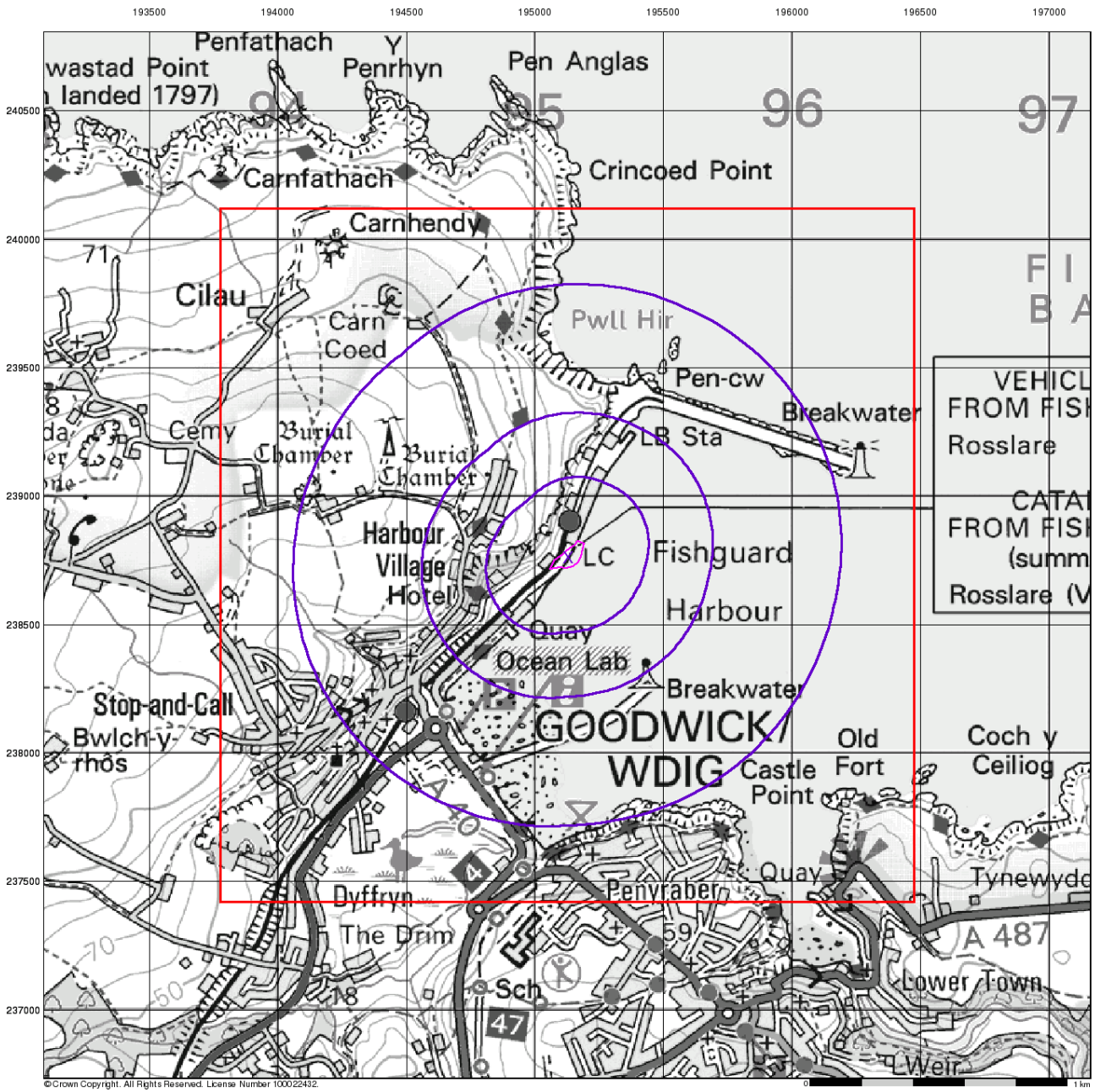
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Site Area (Ha):	0.71
Search Buffer (m):	1000

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Superficial Aquifer Designation

General

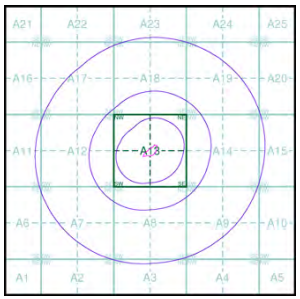
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A

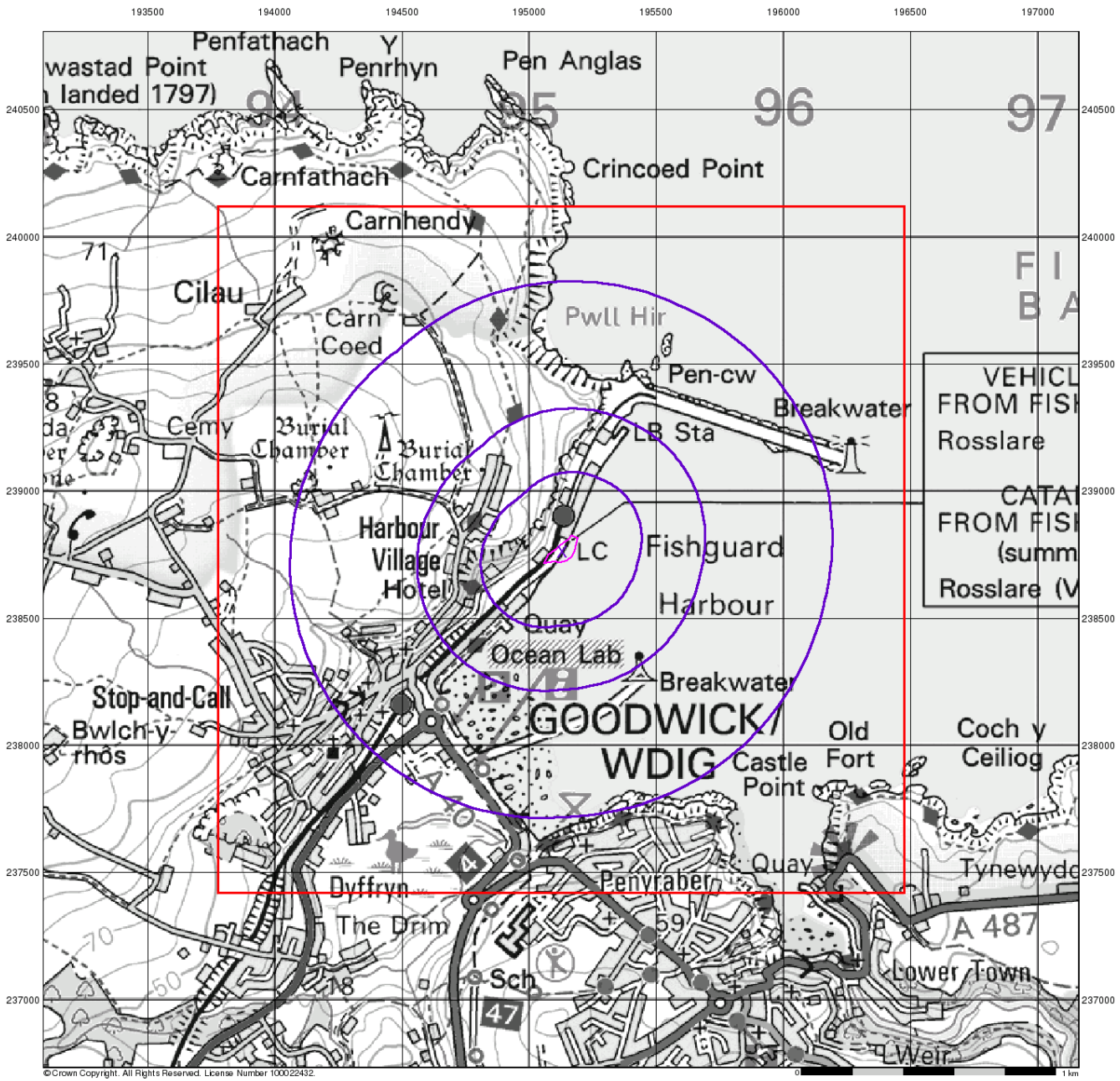


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National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
Search Buffer (m):	1000

Site Details

Site at, Fishguard Harbour, Pembrokeshire



RPS

Source Protection Zones

General

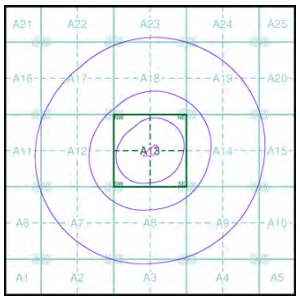
Specified Site | Specified Buffer(s) | Bearing Reference Point

Slice | Map ID

Agency and Hydrological

- Inner zone (Zone 1)
- Inner zone - subsurface activity only (Zone 1c)
- Outer zone (Zone 2)
- Outer zone - subsurface activity only (Zone 2c)
- Total catchment (Zone 3)
- Total catchment - subsurface activity only (Zone 3c)
- Special interest (Zone 4)
- Source Protection Zone Borehole

Site Sensitivity Context Map - Slice A



Order Details

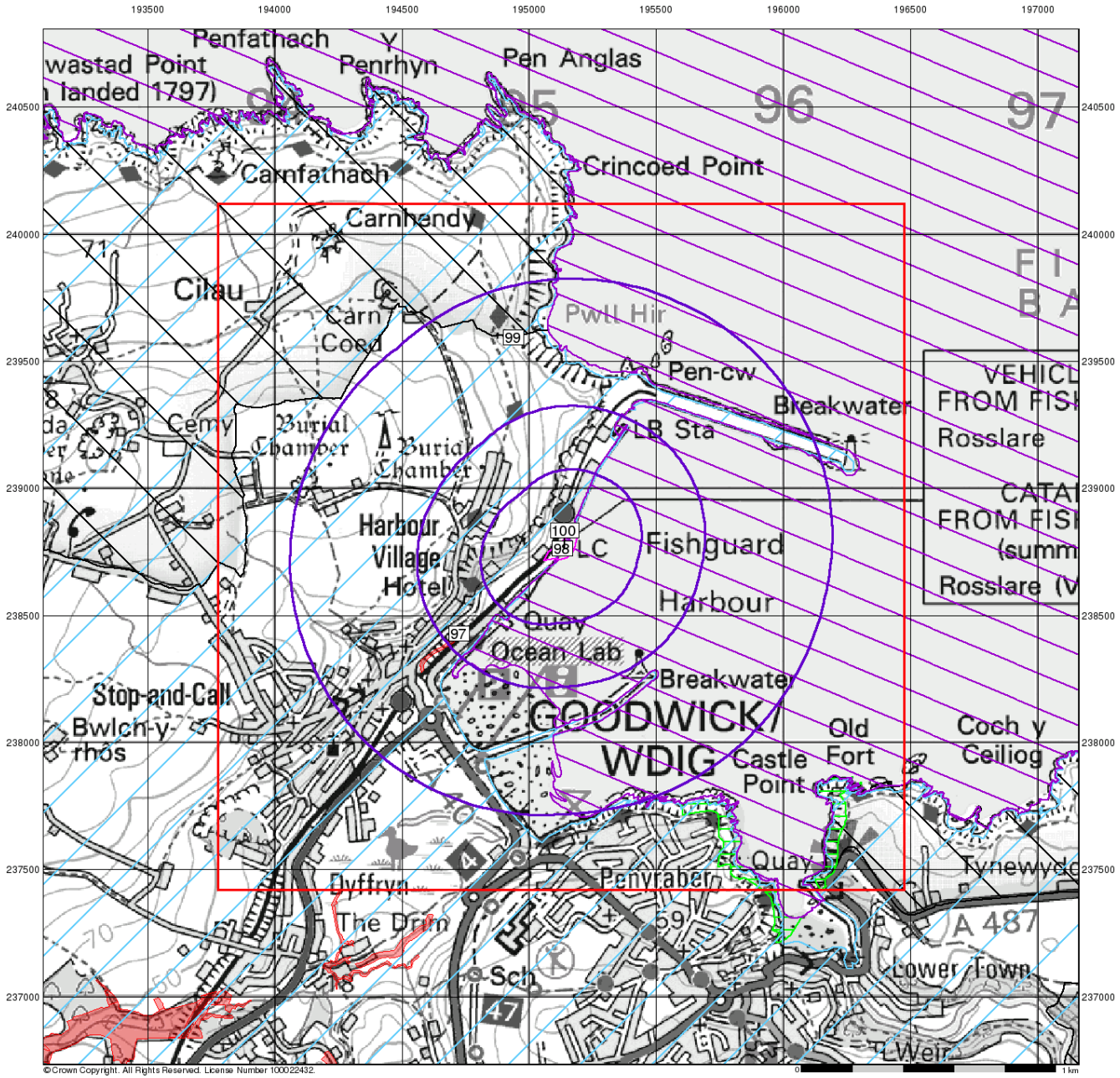
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National Grid Reference:	195130, 238760
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Site Details

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Web: www.envirocheck.co.uk



RPS

Sensitive Land Uses

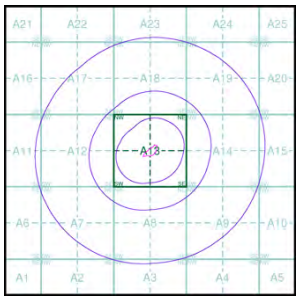
General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Sensitive Land Uses

- Ancient Woodland
- Area of Adopted Green Belt
- Area of Unadopted Green Belt
- Area of Outstanding Natural Beauty
- Environmentally Sensitive Area
- Forest Park
- Local Nature Reserve
- Marine Nature Reserve
- National Nature Reserve
- National Park
- Nitrate Sensitive Area
- Nitrate Vulnerable Zone
- Ramsar Site
- Site of Special Scientific Interest
- Special Area of Conservation
- Special Protection Area
- World Heritage Sites

Site Sensitivity Context Map - Slice A



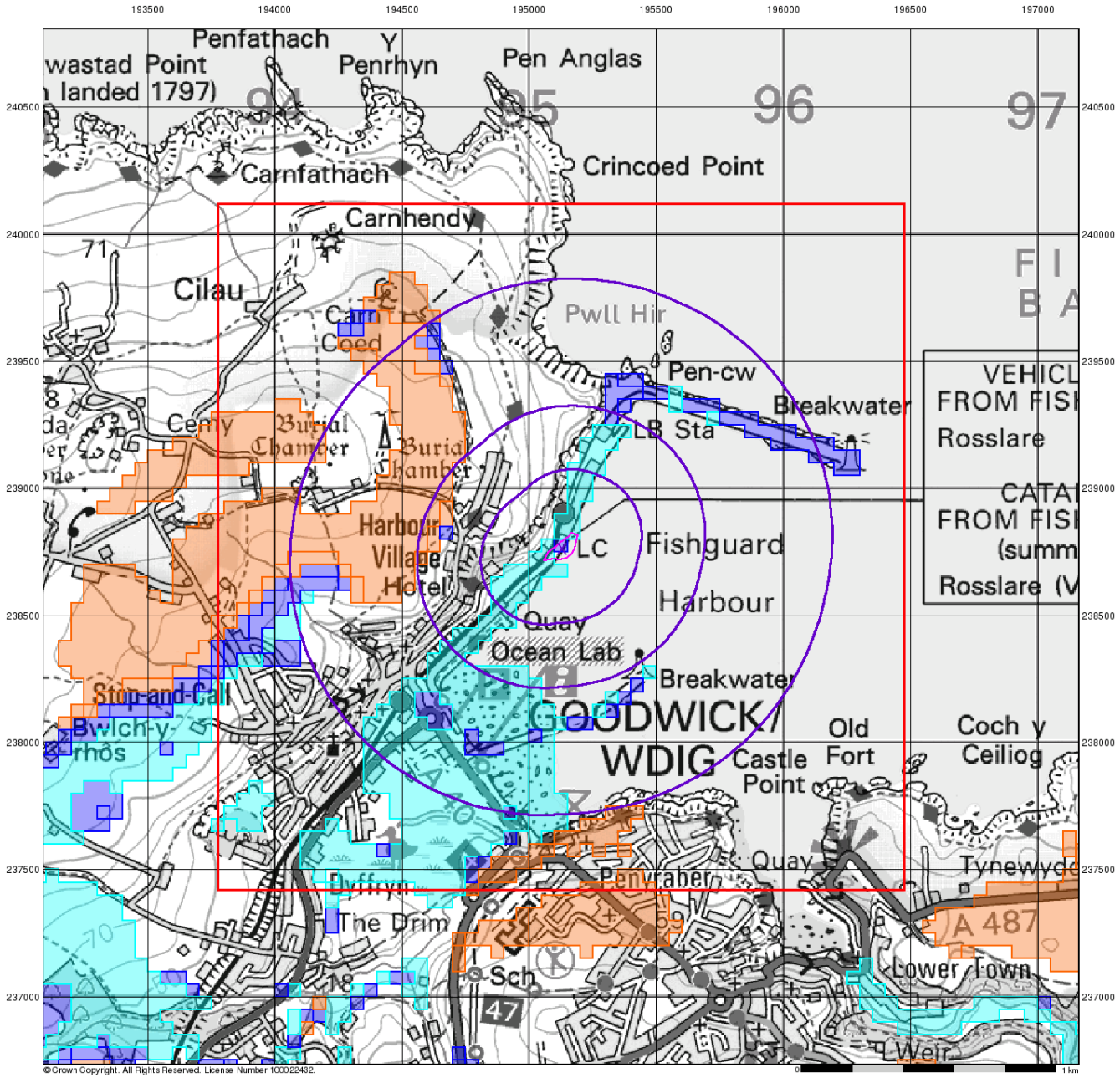
Order Details

Order Number:	144469394_1_1
Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
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RPS

BGS Flood GFS Data

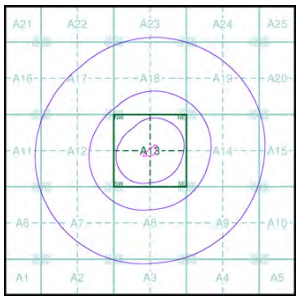
General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice

Agency and Hydrological (Flood)

- Limited Potential for Groundwater Flooding to Occur
- Potential for Groundwater Flooding of Property Situated Below Ground Level
- Potential for Groundwater Flooding to Occur at Surface

Site Sensitivity Context Map - Slice A



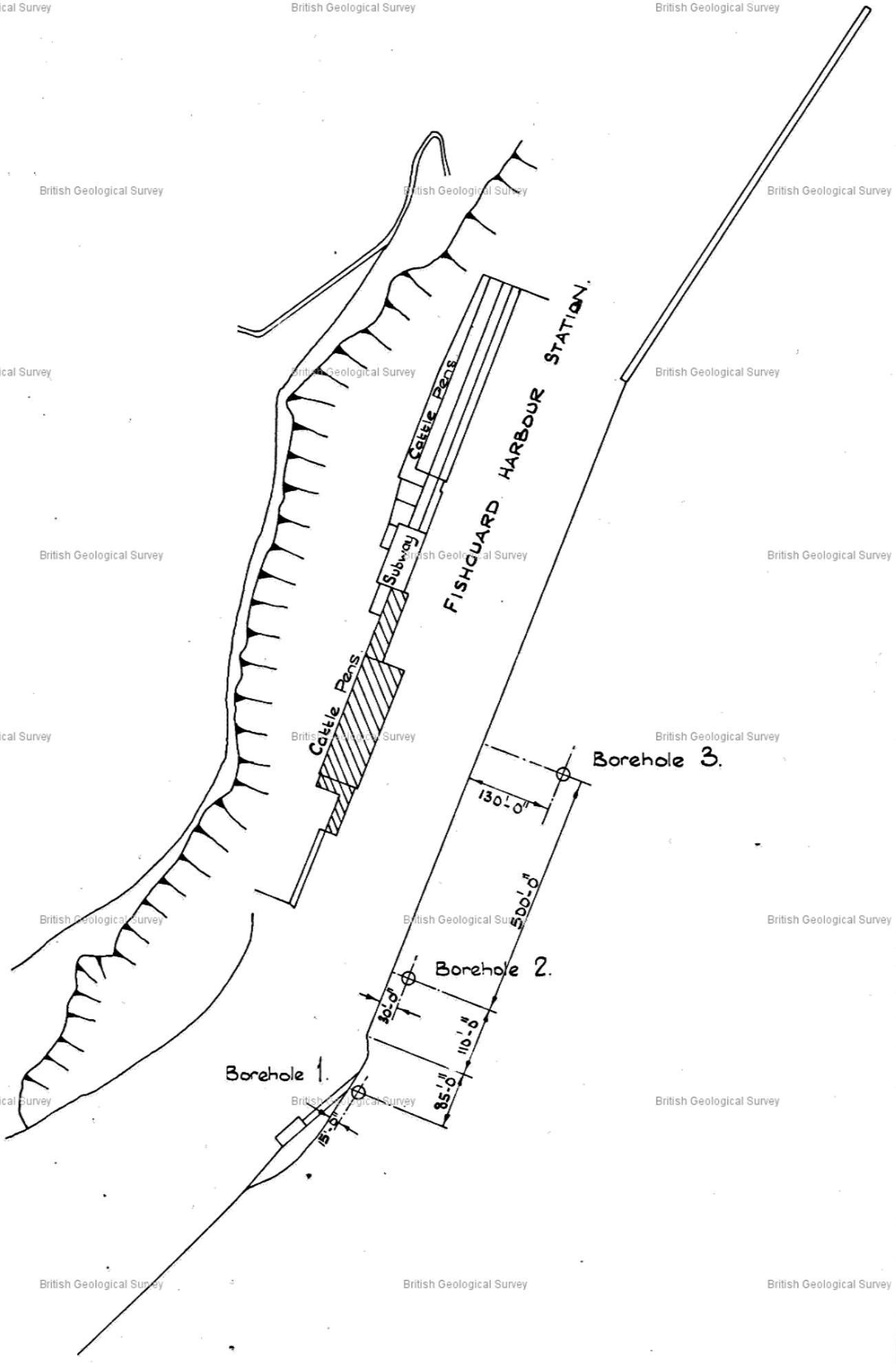
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Customer Ref:	IBR1023
National Grid Reference:	195130, 238760
Slice:	A
Site Area (Ha):	0.71
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Site Details

Site at, Fishguard Harbour, Pembrokeshire

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FISHGUARD HARBOUR

LOCATION OF BOREHOLES.

SCALE 1/2500

Ltd.

BOREHOLE LOG

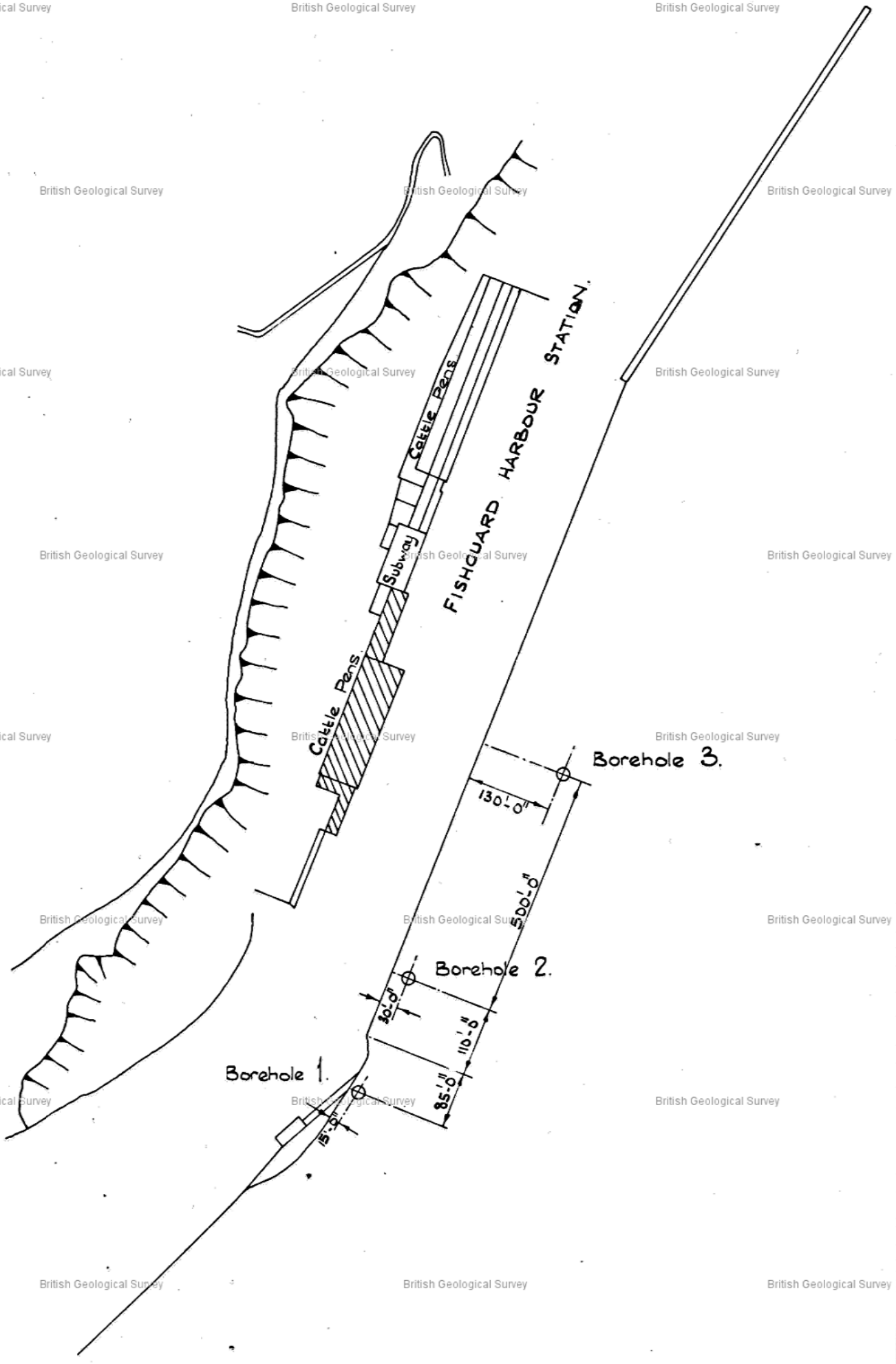
LOCATION : FISHGUARD HARBOUR BOREHOLE No. : 2 (2nd Rebore)

BOREHOLE DIA. : 8" BED LEVEL : - 23·5 approx. Admiralty datum

DATE (Start) : 17·11·1964

Dates	Description	Thickness	Depth		Sample	Remarks
			0'-0"			
	Dense sandy GRAVEL, c.m.f. cobbles and boulders	11'-3" +			● 1 + ● 2	Refusal
			11'-3"			Borehole Abandoned, owing to necessity to move on to borehole 3 to comply with shipping requirements
						1st Rebore Abandoned owing to sea-bed obstructions.

British Geological Survey



FISHGUARD HARBOUR

LOCATION OF BOREHOLES.

SCALE 1/2500

LOCATION : FISHGUARD HARBOUR BOREHOLE No. : 1 (4th Attempt)

BOREHOLE DIA. : 8" & 'AX' BED LEVEL : -20 approx. Admiralty Datum. (Admiralty datum 5.71 below N.D.)

DATE (Start) : 7. 11. 64

Dates	Description	Thickness	Depth		Sample	Remarks
			0'-0"			
	Dense sandy silty GRAVEL f.c. and boulders	3'-0"			• 1	
			3'-0"		+2	50 blows / 4 ins Recovery 25%
	BOULDERS	3'-0"				
			6'-0"			
	Hard light brown LAVA (Believed to be bedrock)	2'-0" +			4	Recovery 70%
			8'-0"			BOREHOLE COMPLETED.

1st Attempt
Boulders on sea bed, cored 1'-6"

2nd. Attempt
Boulders on sea bed, chiselled 2'-6"

3rd Attempt.
Metal obstruction (steel rail) on sea bed - no penetration.

Appendix B

Photographic Record

Plate 1: Above ground fuel storage tanks



Plate 2: View looking south



Plate 3: Existing linkspan



Appendix C

Furgo Site Investigation – BH9, BH10 and BH33

Drilling Method: Cable Percussion & Rotary Cored	Borehole Diameter: 150mm to 15.50m; 146mm to 31.30m	Casing Diameter: 180mm to 15.50m	**BOREHOLE No. BH09**
Equipment: Comacchio MC-S 1200			Coordinates: 195140.5 E; (National Grid) 238706.0 N
Crew/Vessel: Skate 3E	Logged by: AP/CC	Compiled by: jg	Seabed Level: -0.60 m CD
Dates Drilled: Start 27/04/2015; End 28/04/2015	27/04/2015	28/04/2015	Approved by:

Date & Time	Casing Depth (m)	Depth to Water (m)	Sample Details: Depth (m) From–To	Type	No.	SPT Blows/N Drive mm: Test	U100 Blows/ Recovery mm: Result	Description of Strata	Depth (Thick-ness) (m)	Level	Legend
27/04			0.00-1.00	B	1			Dark greyish brown silty fine SAND with soft dark greyish brown clayey silt pockets. Possibly interbedded. Rare shell fragments <4mm. Slight organic odour.			
			0.50	ES	1				(1.00)		
	1.00	FULL	1.00-1.45	D	2	S0/ 450		Very loose dark greyish brown silty fine SAND. Rare shell fragments <3mm.	1.00	-1.60	
			1.45-2.00	B	3				(1.00)		
	2.00	FULL	2.00-2.45	D	4	S1		Very loose dark greyish brown silty fine SAND. Frequent shell fragments and lignite fragments <8mm.	2.00	-2.60	
									(0.25)		
								Very soft dark grey clayey SILT.	2.25	-2.85	
			2.45-3.00	B	5				(0.75)		
	3.00	FULL	3.00-3.45	D	6	S8		Loose dark grey silty mainly fine SAND. Rare shell fragments <2mm.	3.00	-3.60	
			3.45-4.00	B	7				(1.50)		
	4.00	FULL	4.00-4.45	D	8	S7					
			4.45-5.00	B	9			Medium dense greyish brown slightly clayey to clayey fine SAND. Frequent shell fragments <10mm.	4.50	-5.10	
	5.00	FULL	5.00-5.45	D	10	S17					

Remarks (See notes & keysheets)

1. Borehole carried out over water from jack up platform Skate 3E. Deck to mud 6.8m.
2. Borehole advanced by cable percussion means to 15.50m switching to rotary coring due to ground conditions. Continued by rotary coring to 31.30m.
3. Chiselled from 12.80m to 14.00m (150 mins);chiselled from 14.50m to 14.90m (30 mins);chiselled from 15.00m to 15.30m (30 mins).
4. Groundwater not apparent during boring in marine environment. Water added throughout boring.

Scale 1:25

TUGRO	Project: FISHGUARD MARINA MARINE G.I. Conygar Stena Line Ltd Black & Veatch	Contract No. N152003U Figure No. FRB9 (1 of 7)

Drilling Method	Cable Percussion & Rotary Cored	Borehole Diameter	150mm to 15.50m 146mm to 31.30m
Equipment	Comacchio MC-S 1200	Casing Diameter	180mm to 15.50m
Crew/Vessel	Skate 3E	Logged by	AP/CC
Dates Drilled	Start 27/04/2015 End 28/04/2015	Compiled by	jg
		Approved by	

BOREHOLE No. BH09

Coordinates	195140.5	E
(National Grid)	238706.0	N
Seabed Level	-0.60	m CD

Date & Time	Casing Depth (m)	Depth to Water (m)	Sample Details: Depth (m) From	To	Type	No.	SPT Blows/N Drive mm Test	U100 Blows/ Recovery mm Result	Description of Strata	Depth (Thick-ness) (m)	Level	Legend
									Loose dark grey SAND as previous sheet.			
			5.45	6.50	B	11			5.45m to 6.50m; sand is mainly fine and medium.	(2.50)		
	6.00	FULL	6.50	6.95	D	12	S25					
			6.95	8.00	B	13			Medium dense greyish brown slightly silty and silty slightly gravelly fine and medium SAND. Gravel is subrounded fine quartz. Frequent shell fragments <8mm.	7.00	-7.60	
	8.00	FULL	8.00	8.45	D	14	S26			(1.50)		
			8.45	9.50	B	16			Dense greyish brown slightly silty slightly gravelly fine and medium SAND. Gravel is subangular to subrounded fine and medium quartz, quartzite and mudstone.	8.50	-9.10	
	9.50	FULL	9.50	9.95	D	17	S49		9.50m to 9.95m; rare shell fragments <4mm.	(2.50)		
			9.95	11.00	B	18						

Remarks
(See notes & keysheets)

Scale 1:25

FUGRO	Project FISHGUARD MARINA MARINE G.I. Conygar Stena Line Ltd Black & Veatch	Contract No. N152003U Figure No. FRB9 (2 of 7)

Drilling Method	Cable Percussion & Rotary Cored	Borehole Diameter	150mm to 15.50m 146mm to 31.30m
Equipment	Comacchio MC-S 1200	Casing Diameter	180mm to 15.50m
Crew/Vessel	Skate 3E	Logged by	AP/CC
Dates Drilled	Start 27/04/2015 End 28/04/2015	Compiled by	jg
		Approved by	27/04/2015 28/04/2015

BOREHOLE No. BH09

Coordinates	195140.5	E
(National Grid)	238706.0	N
Seabed Level	-0.60	m CD

Date & Time	Casing Depth (m)	Depth to Water (m)	Sample Details: Depth (m) From	To	Type	No.	SPT Blows/N Drive mm: Test	U100 Blows/ Recovery mm: Result	Description of Strata	Depth (Thick-ness) (m)	Level	Legend
									Greyish brown SAND as previous sheet.			
	11.00	FULL	11.00	11.45	D	19	S42		Dense greyish brown fine and medium SAND.	11.00 (0.50)	11.60	
			11.45	12.50	B	20			Dense greyish brown slightly silty slightly gravelly fine and medium SAND. Gravel is subrounded fine and medium quartz and quartzite. Frequent shell fragments <5mm.	11.50 (1.50)	12.10	
	12.50	FULL	12.50	12.95	D	21	S35		Below 12.50m; very gravelly. Gravel is fine to coarse.			
			12.95	14.00	B	22			Dense greyish brown gravelly fine to coarse SAND with high cobble content. Gravel is subangular to subrounded fine to coarse mainly medium quartzite, mudstone and quartz. Cobbles are subangular quartzite <100mm.	13.00	13.60	
	14.00	FULL	14.00 14.00	14.22 15.50	D B	23 24	S38		14.00m to 14.22m; orangish brown slightly clayey gravelly fine and medium sand. Gravel is subangular to subrounded fine and medium quartzite.			
27/04	14.00	FULL							14.25m to 15.50m; sandy gravel with cobbles. Chiselled from 14.50m to 14.90m and 15.00m to 15.30m.	(2.50)		
27/04	14.00	FULL										

Remarks
(See notes & keysheets)

Scale 1:25

TUGRO	Project FISHGUARD MARINA MARINE G.I. Conygar Stena Line Ltd Black & Veatch	Contract No. N152003U Figure No. FRB9 (3 of 7)

Drilling Method	Cable Percussion & Rotary Cored	**Borehole Diameter**	150mm to 15.50m 146mm to 31.30m
Casing Diameter	180mm to 15.50m	**BOREHOLE No.**	**BH09**
Equipment	Comacchio MC-S 1200	**Coordinates**	195140.5 E
Drill Fluid	Sea water	**(National Grid)**	238706.0 N
Crew/Vessel	Skate 3E	**Seabed Level**	-0.60 m CD
Dates Drilled	Start 27/04/2015 End 28/04/2015	**Logged by**	AP/CC 27/04/2015
Compiled by	jg 28/04/2015	**Approved by**	

Date & Time	Casing Depth (m)	Water Depth (m) (Flush Return) %	Sample/Core Recovery Depth (m) From	To	Type TCR %	No. SCR %	RQD %	SPT Blows /N Core Size (mm)	Result or U100 Blows/ Rec. mm	Description of Strata	Depth (Thick-ness) (m)	Level	Legend
										Greyish brown SAND as previous sheet.			
											15.50	-16.10	
	15.50	FULL	15.50-15.53					C50/ 15		Recovered as very dense grey to orangish brown fine to coarse becoming medium and coarse GRAVEL with cobbles. Possible loss of fines.			
		(75)	15.50-16.30		56					15.50m to 16.30m; 56% recovery. Gravel is very angular to angular rhyolite. Medium cobble content angular of rhyolite 110mm x 100mm x 90mm.			
										16.30m to 17.80m; 47% recovery. Gravel is very angular to angular rhyolite. Low cobble content of rhyolite 95mm x 90mm x 60mm.			
	15.50	FULL	16.30-16.34					C50/ 10					
		(75)	16.30-17.80		47						(3.80)		
										17.80m to 18.30m; gravel is very angular to angular. Medium cobble content subangular of rhyolite 110mm x 80mm x 80mm.			
	15.50	FULL	17.80-17.81					C50/ 5					
		(20)	17.80-18.30		100					18.30m to 19.10m; 25% recovery. No cobble content.			
		(20)	18.30-19.30		40								
			19.19-19.30		CS	1				19.10m to 19.30m; Boulder. Weak grey rhyolite. Slightly weathered with orange brown discolouration, particularly on fracture surfaces.			
											19.30	-19.90	
	15.50	FULL	19.30-19.34					C50/ 20		0.80m core recovery. Recovered as very dense grey to orangish brown fine to coarse GRAVEL with low cobble content. Gravel is very angular to subrounded andesite and rhyolite. Cobbles are of rhyolite 100mm x 90mm x 45mm. Possible loss of fines.			

Remarks
(See notes & keysheets)

Scale 1:25

TUGRO	**Project** FISHGUARD MARINA MARINE G.I. Conygar Stena Line Ltd Black & Veatch	**Contract No.** N152003U **Figure No.** FRB9 (4 of 7)

Drilling Method	Cable Percussion & Rotary Cored	Borehole Diameter	150mm to 15.50m 146mm to 31.30m
Equipment	Comacchio MC-S 1200	Casing Diameter	180mm to 15.50m
Drill Fluid	Sea water		
Crew/Vessel	Skate 3E		
Dates Drilled	Start 27/04/2015 End 28/04/2015	Logged by / Compiled by / Approved by	AP/CC 27/04/2015 / jg 28/04/2015 /

BOREHOLE No. BH09

Coordinates	195140.5	E
(National Grid)	238706.0	N
Seabed Level	-0.60	m CD

Date & Time	Casing Depth (m)	Water Depth (m) (Flush Return) %	Sample/Core Recovery Depth (m) From	To	Type	No.	TCR %	SCR %	RQD %	SPT Blows /N Core Size (mm)	Description of Strata	Depth (Thick-ness) (m)	Level	Legend
		(50)	19.30	20.80	53						Recovered as GRAVEL as previous sheet.	(2.40)		
	15.50	FULL	20.80	20.89						C50/ 10				
		(50)	20.80	22.30	53						21.50m to 21.70m; Boulder. Grey to dark grey porphyritic ANDESITE. Angular phenocrysts. Slightly weathered with some orangish brown discolouration.	21.70	-22.30	
											21.70m to 23.60m; assumed zone with core loss. Recovered as grey to orangish brown very angular to subrounded fine to coarse GRAVEL of andesite and rhyolite. Medium cobble content. Cobbles are subangular to subrounded andesite 95mm x 85mm x 80mm. Possible loss of fines.			
	15.50	FULL	22.30	22.40						C50/ 20		(2.10)		
		(75)	22.30	23.80	13									
	15.50	FULL	23.80	23.89						S50/ 10		23.80	-24.40	
			23.80	23.89	D	31					Very weak to locally medium strong fractured light to dark grey banded porphyritic ANDESITE. Porphyritic structure provides fractured planar zones orientated about 60 to 75 degrees with some decomposition and disintegration of clasts up to 25mm brown discolouration on surfaces and locally brown clay. Slightly to moderately weathered. Fracture Set 1: porphyritic banding inclined (60 to 75 degrees) closely to widely spaced (80/435/960) planar rough and partially open to open locally stepped locally with brown staining and with very angular clasts up to 20mm and with soft clay. Fracture Set 2: subvertical to vertical spacing not determined planar rarely stepped rough partially open to open with brown staining and locally up to 25mm of very			
			23.90	24.29	CL	2								
			24.18	24.40	CL	3								
		(75)	23.80	24.80	90		68		68					
	15.50	FULL	24.80	24.93						S50/ 10				

Remarks (See notes & keysheets)

5 SCR, RQD and Fracture Spacing determined for assessed natural fractures but not drilling enhanced fractures. Non intact core lengths not counted towards SCR and RQD lengths. See drilling enhanced fracture records at end of borehole record. Clasts in core composed of surrounding bedrock.

6 Fracture Set 1: inclined, 24.11m to 29.75m.

Scale 1:25

TUGRO	Project: FISHGUARD MARINA MARINE G.I. Conygar Stena Line Ltd Black & Veatch	Contract No. N152003U Figure No. FRB9 (5 of 7)

Drilling Method	Cable Percussion & Rotary Cored	**Borehole Diameter**	150mm to 15.50m 146mm to 31.30m
Equipment	Comacchio MC-S 1200	**Casing Diameter**	180mm to 15.50m
Drill Fluid	Sea water	**Logged by**	AP/CC
Crew/Vessel	Skate 3E	**Compiled by**	jg
Dates Drilled	Start 27/04/2015 End 28/04/2015	**Approved by**	28/04/2015

BOREHOLE No. BH09

Coordinates	195140.5	E
(National Grid)	238706.0	N
Seabed Level	-0.60	m CD

Date & Time	Casing Depth (m)	Water Depth (m) (Flush Return) %	Sample/Core Recovery Depth (m) From	To	Type TCR %	No. SCR %	RQD %	SPT Blows /N Core Size (mm)		Description of Strata	Depth (Thick-ness) (m)	Level	Legend
		(0)	24.80	25.80	90	79	79			angular clasts with soft clay. Fracture Set 3: subhorizontal to horizontal rare, local, planar to stepped rough partially open to open locally with brown staining and up to 20mm of very angular clasts and soft clay infill. Fracture Set 4: inclined (20 to 45 degrees) closely to widely spaced (60/420/870) planar to occasionally stepped rough partially open to open locally with brown staining. Some fractures possibly created or opened by drilling enhancement that were incipient or closed in situ. Recovered with non intact zones between 40mm and 130mm length of angular and very angular clasts up to 60mm with soft brown clay. All non intact zones probably drilling enhanced.			
	15.50	FULL	25.80	25.81				C50/0		23.80m to 23.90m; assumed zone of core loss.			
		(25)	25.80	26.80	100	60	60			24.02m to 24.20m; 7 No. fractures, incipient, 75 degs, extremely closely spaced, planar. 24.27m to 24.45m and 24.38m to 24.52m; fracture, 75 degs, planar, rough, open with <20mm clastic infill and brown to orange discolouration. 24.70m to 24.80m; (soft) dark brown medium and coarse sandy gravelly clay. Gravel is angular to subrounded fine to coarse andesite. Probably cavings. 24.80m to 24.90m; assumed core loss zone. 25.23m to 25.39m; 3 No. fractures, 70 degs, extremely closely spaced, planar, rough, open, 35mm wide of very angular clasts 10-20mm. 25.80m to 26.80m; core locally (10%) coated with a brown clayey sand. 25.90m to 26.02m; fracture, 70 degs, planar, rough, open, with <2mm of brown sandy clay infill.			
		(50)	26.80	28.30	100	48	39			26.14m to 26.28m; fracture, 70 degs, planar, rough, open, with brown staining and some brown clay smear. 26.15m to 26.34m; fracture, 90 degs, planar, rough, open brown staining with <2mm infill. At 26.40m; fracture, 0 degs, stepped, rough, open brown staining and clay smear. 26.40m to 26.48m; non intact. Recovered as very angular clasts, 20x20x10mm. Locally clayey possibly from drilling processes. 26.48m to 26.64m; fracture, 90 degs, planar, rough, open with 25mm of brown very angular <20mm clast and clay infill. 26.61m to 26.64m: fracture, 0 degs, stepped, rough, open, 20mm infill of clay and clasts. 26.64m to 26.80m; non intact. Recovered as angular clasts <60x60x30mm locally to one side of subvertical fracture.	(7.50)		
			27.88	28.30	CL	4							
		(100)	28.30	29.80	90	60	60			26.80m to 26.90m; fracture, 60 to 90 degs, curviplanar, rough, open, brown staining. 26.90m to 26.94m; non intact. Recovered as very angular clasts <60x60x30mm. 26.95m to 27.13m; fracture, 85 degs, planar, rough, open, brown staining. 27.00m to 27.98m; non intact. Recovered as very angular clasts <60x60x30mm. 27.01m to 27.06m; fracture, 20 degs, stepped, rough, open, brown staining. 27.05m to 27.22m; fracture, 60 to 90 degs, stepped, rough, partly open, brown staining. 27.10m to 27.26m; fracture, 70 degs, planar, rough, partly open, brown staining.			
			29.90	30.38	CL	5							

Remarks (See notes & keysheets) 7 Fracture Set 4: inclined, 27.05m to 29.15m.

Scale 1:25

TUGRO	**Project** FISHGUARD MARINA MARINE G.I. Conygar Stena Line Ltd Black & Veatch	**Contract No.** N152003U **Figure No.** FRB9 (6 of 7)

Drilling Method	Cable Percussion & Rotary Cored	**Borehole Diameter**	150mm to 15.50m 146mm to 31.30m
Casing Diameter	180mm to 15.50m	**BOREHOLE No.**	**BH09**
Equipment	Comacchio MC-S 1200	**Coordinates**	195140.5 E
Drill Fluid	Sea water	**(National Grid)**	238706.0 N
Crew/Vessel	Skate 3E	**Seabed Level**	-0.60 m CD
Dates Drilled	Start 27/04/2015 End 28/04/2015	**Logged by**	AP/CC 27/04/2015
Compiled by	jg 28/04/2015	**Approved by**	

Date & Time	Casing Depth (m)	Water Depth (m) (Flush Return) %	Sample/Core Recovery Depth (m) From	To	Type TCR %	No. SCR %	RQD %	SPT Blows /N Core Size (mm)		Description of Strata	Depth (Thick-ness) (m)	Level	Legend
		(100)	29.80	31.30	93	83	77			27.23m to 27.57m; fracture, 80 to 90 degs, planar to undulating, rough, open, brown staining. 27.62m to 27.73m; fracture, 65 degs, planar, rough, open, brown staining. 27.72m to 27.85m; non intact. Recovered as very angular clasts <60x60x30mm. 27.86m to 27.91m; fracture, 45 degs, planar, rough, open, brown staining. 27.88m to 27.94m and 27.95m to 28.01m; fractures, 30 degs, planar, rough, open, brown staining. 28.07m to 28.30m; fracture, 85 to 90 degs, planar to undulating, rough, open, brown staining. 28.22m to 28.30m; fracture, 30 degs, stepped, rough, open, brown staining. 28.30m to 28.45m; assumed core loss zone. 28.45m to 28.55m; fracture, 60 degs, planar, rough, open, brown staining.			
28/04	15.50	FULL								28.53m to 28.61m; fracture, 70 degs, planar, rough, incipient. 28.88m to 29.02m; fracture, 70 degs, planar, rough, open with brown staining. 28.97m to 29.08m; fracture, 70 degs, planar, rough, open with <8mm clastic infill. 29.00m to 29.45m and 29.52m to 29.80m and 29.69m to 29.80m; fractures, 70 to 85 degs, planar to stepped, rough, open, brown staining. 29.07m to 29.12m; fracture, 20 degs, planar, rough, open, brown staining. 29.12m to 29.17m; fracture, 30 degs, curviplanar, rough, open with brown staining. At 30.40m; fracture, 0 degs, planar, rough, open, brown staining. 30.40m to 30.84m; fracture, 85 degs, planar, rough, open, with brown staining and <10mm of clastic infill. 30.42m and 30.47m; fracture, 85 degs, planar, rough, partly open, brown staining. 30.77m to 30.84m; fracture, 0 to 20 degs, curviplanar, rough, open, brown staining.	31.30	-31.90	
										End of Borehole			

Remarks
(See notes & keysheets)

Scale 1:25

	Project FISHGUARD MARINA MARINE G.I. Conygar Stena Line Ltd Black & Veatch	**Contract No.** N152003U **Figure No.** FRB9 (7 of 7)

Borehole	Drilling Enhanced Fracture Description
BH09	23.90m to 23.98m; 2 no fractures, extremely closely spaced, 80 degs, planar, rough, partly open.
BH09	23.47m to 23.55m; 8 no fractures, extremely closely spaced, 75 degs, planar, rough, partly open to open.
BH09	24.90m to 24.93m; fracture, 0 to 40 degs, curved, rough, open.
BH09	25.53m to 25.64m; fracture, 70 degs, planar, rough, tight, clean.
BH09	25.80m to 25.92m; fracture, 70 degs, planar, rough, partly open to open, clean.
BH09	26.09m to 26.19m; fracture, 65 degs, planar, rough, partly open to open, clean.
BH09	26.52m to 26.63m; fracture, 70 degs, planar, rough, tight, clean.
BH09	26.94m to 26.98m; fracture, 45 degs, planar, rough, partly open to open.
BH09	26.97m to 27.02m; fracture, 30 degs, planar, rough, partly open to open.
BH09	At 26.99m; fracture, 0 degs, planar, rough, partly open to open.
BH09	27.22m to 27.42m; fracture, 70 degs, planar to undulating, rough, tight, clean.
BH09	At 27.82m 27.88m; fracture, from 20 to 30 degs, stepped, rough, open.
BH09	At 28.99m; fracture, 0 degs, planar, rough, partly open to open.
BH09	29.60m to 29.65m; 3 no fractures, extremely closely spaced, 0 to 5 degs, curved, rough, open.
BH09	30.36m to 30.40m; fracture, 40 degs, stepped to planar, rough, open.

Drilling Method	Cable Percussion & Rotary Cored	**Borehole Diameter**	150mm to 14.00m 146mm to 26.00m
Equipment	Comacchio MC-S 1200	**Casing Diameter**	180mm to 14.00m
Crew/Vessel	Skate 3E	**Logged by**	AP/CC
Dates Drilled	Start 28/04/2015 End 29/04/2015	**Compiled by**	jg
		Approved by	29/04/2015 30/04/2015

BOREHOLE No. BH10

Coordinates	195164.5	E
(National Grid)	238755.5	N
Seabed Level	-2.10	m CD

Date & Time	Casing Depth (m)	Depth to Water (m)	Sample Details: Depth (m) From	To	Type	No.	SPT Blows/N Drive mm Test	U100 Blows/ Recovery mm Result	Description of Strata	Depth (Thick-ness) (m)	Level	Legend
28/04			0.00	1.00	B	1			Very soft dark greyish brown slightly sandy CLAY. Rare shell fragments <2mm. Strong organic odour.	(1.00)		
	1.00	FULL	1.00	1.45	D	2	S0/ 450		Very loose dark greyish brown silty fine SAND. Rare shell and organic fragments <5mm. Slight organic odour.	1.00	-3.10	
			1.45	2.00	B	3						
	2.00	FULL	2.00	2.45	D	4	S0/ 450			(2.50)		
			2.45	3.00	B	5						
	3.00	FULL	3.00	3.45	D	6	S0/ 450					
			3.45	4.00	B	7			Very soft dark greyish brown sandy CLAY. Rare shell fragments <4mm. Slight organic odour.	3.50	-5.60	
	4.00	FULL	4.00	4.45	D	8	S0/ 450			(1.00)		
			4.45	5.00	B	9			Dark greyish brown silty fine SAND. Rare shell fragments <4mm.	4.50	-6.60	
										(0.50)		
	5.00	FULL	5.00	5.45	D	10	S23			5.00	-7.10	

Remarks (See notes & keysheets)

1. Borehole carried out over water from jack up platform Skate 3E. Deck to mud 6.8m.
2. The borehole was advanced by cable percussion means to 14.00m switching to rotary coring due to ground conditions. Continued by rotary coring to 26.00m.
3. SPT self-weight penetration stopped at 0.45m.
4. Chiselled from 12.70m to 12.90m (30 mins);chiselled from 13.70m to 14.00m (60 mins).
5. Groundwater not apparent during boring in marine environment. Water added throughout boring.

Scale 1:25

Project	FISHGUARD MARINA MARINE G.I. Conygar Stena Line Ltd Black & Veatch	**Contract No.** N152003U **Figure No.** FRB10 (1 of 6)

Drilling Method	Cable Percussion & Rotary Cored	**Borehole Diameter**	150mm to 14.00m 146mm to 26.00m
Casing Diameter	180mm to 14.00m	**BOREHOLE No.**	**BH10**
Equipment	Comacchio MC-S 1200	**Coordinates**	195164.5 E
		(National Grid)	238755.5 N
Crew/Vessel	Skate 3E	**Seabed Level**	-2.10 m CD
Dates Drilled	Start 28/04/2015 End 29/04/2015	**Logged by**	AP/CC 29/04/2015
Compiled by	jg 30/04/2015	**Approved by**	

Date & Time	Casing Depth (m)	Depth to Water (m)	Sample Details: Depth (m) From	To	Type	No.	SPT Blows/N Drive mm Test	U100 Blows/ Recovery mm Result	Description of Strata	Depth (Thick-ness) (m)	Level	Legend
									Medium dense greyish brown silty gravelly SAND. Rare shell fragments <4mm.	5.00	-7.10	
			5.45	6.50	B	11				(1.80)		
	6.50	FULL	6.50	6.95	D	12	S29					
									Medium dense greyish brown silty fine SAND with rare gravel. Gravel is fine subrounded quartz and quartzite.	6.80	-8.90	
			6.95	8.00	B	13						
	8.00	FULL	8.00	8.45	D	14	S23					
									Below 8.45m; silty, mainly fine and medium sand.	(3.10)		
			8.45	9.50	B	15						
	9.50	FULL	9.50	9.95	D	16	S14					
									Medium dense dark greyish brown slightly silty fine SAND. Rare shell fragments and rare lignite <6mm.	9.90	-12.00	
			9.95	11.00	B	17						

Remarks
(See notes & keysheets)

Scale 1:25

TUGRO	**Project** FISHGUARD MARINA MARINE G.I. Conygar Stena Line Ltd Black & Veatch	**Contract No.** N152003U **Figure No.** FRB10 (2 of 6)

Drilling Method	Cable Percussion & Rotary Cored	Borehole Diameter	150mm to 14.00m 146mm to 26.00m
Equipment	Comacchio MC-S 1200	Casing Diameter	180mm to 14.00m
Drill Fluid	Sea water		
Crew/Vessel	Skate 3E		
Dates Drilled	Start 28/04/2015 End 29/04/2015	Logged by AP/CC 29/04/2015	Compiled by jg 30/04/2015
		Approved by	

BOREHOLE No. BH10

Coordinates (National Grid)	195164.5	E
	238755.5	N
Seabed Level	-2.10	m CD

Date & Time	Casing Depth (m)	Water Depth (m) (Flush Return) %	Sample/Core Recovery Depth (m) From	To	Type	No. TCR %	SCR %	RQD %	SPT Blows /N Core Size (mm)	Result or U100 Blows/ Rec. mm	Description of Strata	Depth (Thick-ness) (m)	Level	Legend
											Medium dense dark greyish brown SAND as previous sheet.	(1.55)		
	11.00	FULL	11.00-11.45		D	18			S14			11.45	-13.55	
			11.45-12.50		B	19					Greyish brown silty slightly gravelly and gravelly fine to coarse SAND with low cobble content. Gravel is subangular to subrounded quartzite, quartz and mudstone. Cobbles are subangular quartzite 100mm x 90mm x 50mm.			
	12.50	FULL	12.50-12.65		D	20			S50/ 10		Below about 12.50m; (very dense) increased cobble content.			
			12.65-14.00		B	21						(2.55)		
	14.00	FULL	14.00-14.15		D	22			C50/ 85			14.00	-16.10	
28/04	14.00	FULL	14.00-14.20		0						NO RECOVERY.	(0.20)		
		(100)										14.20	-16.30	
28/04	14.00	FULL									Recovered 0.20m of grey to brown angular to subrounded fine to coarse GRAVEL and COBBLES of andesite and rhyolite. Possible loss of fines.			
		(25)	14.20-15.00		25							(0.80)		
												15.00	-17.10	

Remarks
(See notes & keysheets)

Scale 1:25

	Project FISHGUARD MARINA MARINE G.I. Conygar Stena Line Ltd Black & Veatch	Contract No. N152003U Figure No. FRB10 (3 of 6)

Drilling Method	Cable Percussion & Rotary Cored	Borehole Diameter / Casing Diameter	150mm to 14.00m / 180mm to 14.00m; 146mm to 26.00m
Equipment	Comacchio MC-S 1200		
Drill Fluid	Sea water		
Crew/Vessel	Skate 3E	Logged by / Compiled by / Approved by	AP/CC / jg /
Dates Drilled	Start 28/04/2015		29/04/2015 / 30/04/2015 /
	End 29/04/2015		

BOREHOLE No. BH10

Coordinates	195164.5	E
(National Grid)	238755.5	N
Seabed Level	-2.10	m CD

Date & Time	Casing Depth (m)	Water Depth (m) (Flush Return) %	Sample/Core Recovery Depth (m) From	To	Type	TCR %	No. SCR %	RQD %	SPT Blows /N Core Size (mm)	Description of Strata	Depth (Thickness) (m)	Level	Legend
	14.00	FULL	15.00	15.10					C50/25	Very dense. Recovered as grey to brown angular to subrounded fine to coarse GRAVEL with low cobble content. Gravel is of mixed lithologies, mainly rhyolite and andesite. Cobbles are subangular to subrounded (100mm x 70mm x 55mm) of andesite and rhyolite. Possible loss of 15.00m to 15.55m; assumed zone of core loss.	15.00	-17.10	
		(25)	15.00	16.00		40							
	14.00	FULL	16.00	16.09					C50/10	16.00m to 16.90m; assumed zone of core loss.	(3.25)		
		(25)	16.00	17.50		40							
	14.00	FULL	17.50	17.54					C50/10	17.50m to 17.55m; assumed zone of core loss.			
		(25)	17.50	18.25		93				17.75m to 17.85m; soft to firm brown sandy gravelly clay. Gravel is angular to subrounded fine to coarse of andesite and rhyolite.			
										Stiff brown slightly gravelly sandy CLAY with medium cobble content. Gravel is angular to subangular fine to coarse of rhyolite. Cobbles are subangular (100mm x 70mm x 70mm) of rhyolite.	18.25	-20.35	
											(0.25)		
										Weak to very strong fractured grey banded porphyritic RHYOLITE. Foliation inclined incipient. Some disintegration to clasts up to 20mm with orange brown discolouration. Slightly to locally moderately weathered. Fracture Set 1: subvertical (70 to 80 degs) and vertical spacing not determined planar and rarely stepped to rough mainly open with locally brown staining up to 6mm of angular clasts and rarely up to 2mm of soft clay infill. Fracture Set 2: subhorizontal to horizontal rare, local, planar to stepped rough mainly open with brown staining. Fracture Set 3: inclined (20 to 45 degrees), rare, local, planar to stepped rough open with brown to black staining. Some fractures possibly created or opened by drilling enhancement that were incipient or closed in situ. Recovered with non intact zones between 50mm and 200mm of angular to very angular clasts up to 100mm length and locally fine to medium sand. 18.69m to 19.00m; f, 85 degs, planar, rough, open with <6mm clastic infill.	18.50	-20.60	
		(25)	18.25	19.00		100	68	68					
	14.00	FULL	19.00	19.01					C50/0				
			19.47	19.85	CL		1						
		(75)	19.00	20.50		97	64	55					

Remarks 6 (See notes & keysheets) SCR, RQD and Fracture Spacing determined for assessed natural fractures but not drilling enhanced fractures. Non intact core lengths not counted towards SCR and RQD lengths. See drilling enhanced fracture records at end of borehole record. Clasts in core composed of surrounding bedrock.

Scale 1:25

TUGRO	Project: FISHGUARD MARINA MARINE G.I. Conygar Stena Line Ltd Black & Veatch	Contract No. N152003U Figure No. FRB10 (4 of 6)

304/03

Drilling Method	Cable Percussion & Rotary Cored	**Borehole Diameter**	150mm to 14.00m 146mm to 26.00m
Equipment	Comacchio MC-S 1200	**Casing Diameter**	180mm to 14.00m
Drill Fluid	Sea water	**Logged by**	AP/CC
Crew/Vessel	Skate 3E	**Compiled by**	jg
Dates Drilled	Start 28/04/2015 End 29/04/2015	**Approved by**	30/04/2015

BOREHOLE No. BH10

Coordinates	195164.5	E
(National Grid)	238755.5	N
Seabed Level	-2.10	m CD

Date & Time	Casing Depth (m)	Water Depth (m) (Flush Return) %	Sample/Core Recovery Depth (m) From	To	Type TCR %	No. SCR %	RQD %	SPT Blows /N Core Size (mm)		Description of Strata	Depth (Thick-ness) (m)	Level	Legend
										19.00m to 19.05m; assumed core loss zone. 19.05m to 19.25m; non intact. Recovered as very angular to angular clasts. 19.18m to 19.26m; fracture, 70 degs, planar, rough, open with brown staining. 19.24m to 19.42m, 19.76m to 19.92m; fractures, 80 degs, planar, rough, open with brown staining.	(3.50)		
		(75)	20.50-22.00		93	88	75			19.35m to 19.52m; fracture, 80 degs, planar, rough, open with brown staining and <5mm clastic infill. 20.05m to 20.10m; non intact. Recovered as very angular to angular clasts <100x70x60mm. 20.10m to 20.18m; fracture, 70 degs, planar, rough, partly open to open with <2mm of soft clay infill. 20.14m to 20.27m, 20.34m to 20.43m; fractures, 70 degs, planar, rough, open with brown staining. 20.40m to 20.47m; fracture, 30 degs, planar, rough, open with brown staining. 20.50m to 20.60m; assumed core loss zone. 20.74m to 20.79m; fracture, 20 degs, stepped, rough, open with brown staining. 20.78m to 20.84m; fracture, 90 degs, stepped, rough, open with black staining.			
			21.80-21.99		CS	2				At 20.80m; fracture, 0 degs, planar, rough, open with brown staining. 20.81m to 21.75m; vesicles <30mm x 20mm with black staining. 20.91m to 21.10m; f, 85 degs, planar, rough, open with black staining. 21.05m to 21.11m; f, 45 degs, planar, rough, open with brown/black staining. 21.26m to 21.29m; f, 15 degs, planar, rough, open with brown/black staining. 21.34m to 21.36m; f, 5 degs, planar, rough, open with brown/black staining. 21.50m to 21.86m; f, 90 degs, planar, rough, open with brown staining. 21.79m to 21.83m; f, 0-45 degs, curviplanar, rough, open with brown staining.	22.00	-24.10	
		(75)	22.00-23.50		100	68	68			Medium strong fractured light grey to dark grey VOLCANIC BRECCIA. Clasts are angular to subrounded up to 150mm x 120mm of basalt in a rhyolitic matrix. Slightly weathered with partial orange brown discolouration. Fracture Set 1: subhorizontal to horizontal, medium and widely spaced (460/625/1260) stepped occasionally planar to curved rough and partially open to open locally stained brown with up to 20mm infill of very angular clasts. Fracture Set 2: subvertical to vertical spacing not determined planar to stepped rough open with brown staining and locally up to 10mm infill of very angular clasts. Fracture Set 3: rare, local, inclined (40 to 60 degrees) planar to curved rough partially open to open with brown staining. Some fractures possibly created or opened by drilling enhancement that were incipient or closed in situ.	(4.00)		
		(75)	23.50-25.00		100	70	65			22.19m to 22.47m; f, 85 degs, planar to stepped, rough, open with brown staining. 22.25m to 22.28m; f, 0-30 degs, curviplanar, rough, open with brown staining. 22.55m to 23.00m; 4 No. fractures, 85-90 degs, extremely closely spaced, planar to stepped, rough, open with brown staining and <5mm clastic infill. 22.72m to 22.74m; fracture, 0 degs, stepped, rough, partly open to open, with brown staining. 22.93m to 23.00m; f, 40 degs, curviplanar, rough, open with brown			

Remarks (See notes & keysheets)
7 'F' denotes fracture.
8 Fracture Set 1: subhorizontal, 22.27m to 25.39m.

Scale 1:25

TUGRO

Project
FISHGUARD MARINA MARINE G.I.
Conygar Stena Line Ltd
Black & Veatch

Contract No. N152003U

Figure No. FRB10 (5 of 6)

Drilling Method	Cable Percussion & Rotary Cored	**Borehole Diameter**	150mm to 14.00m 146mm to 26.00m
Casing Diameter	180mm to 14.00m	**BOREHOLE No.**	**BH10**
Equipment	Comacchio MC-S 1200	**Coordinates**	195164.5 E
Drill Fluid	Sea water	**(National Grid)**	238755.5 N
Crew/Vessel	Skate 3E	**Seabed Level**	-2.10 m CD
Dates Drilled	Start 28/04/2015 End 29/04/2015	**Logged by**	AP/CC 29/04/2015
		Compiled by	jg 30/04/2015
		Approved by	

Date & Time	Casing Depth (m)	Water Depth (m) (Flush Return) %	Sample/Core Recovery Depth (m) From	To	Type TCR %	No. SCR %	RQD %	SPT Blows /N Core Size (mm)		Description of Strata	Depth (Thick-ness) (m)	Level	Legend
			25.10	25.37	CL	3				staining. 23.00m to 23.50m; f, 85-90 degs, planar to stepped, rough, open with brown staining. 23.19m to 23.30m; 6 No. fractures, 10 degs, extremely closely to closely spaced, planar, stepped, rough, open. Locally recovered as very angular fine to coarse gravel <60mm x 40mm x 20mm. 23.50m to 23.56m; fracture, 40 degs, curviplanar, rough, open with brown staining. 23.66m to 23.80m; 2 No. fractures, 60 degs, extremely closely spaced, planar, rough, partly open to open with brown staining. 23.77m to 23.99m; fracture, 80 degs, planar to stepped, rough, open with <10mm of clastic infill. 24.12m to 24.14m; fracture, 0 degs, stepped, rough, open with <20mm of very angular clastic infill. 24.12m to 24.30m; fracture, 70 degs, planar, rough, open with brown staining. 24.15m to 24.18m; fracture, 20 degs, stepped, rough, open with <20mm of very angular clastic infill. 24.58m to 24.62m; fracture, 20 degs, planar, rough, open with brown staining. 25.00m to 25.10m; assumed core loss zone. 25.38m to 25.40m; fracture, 15 degs, planar, rough, open with brown staining.			
		(75)	25.00	26.00	90	90	90						
29/04	14.00	FULL									26.00	-28.10	
										End of Borehole			

Remarks
(See notes & keysheets)

Scale 1:25

TUGRO	**Project** FISHGUARD MARINA MARINE G.I. Conygar Stena Line Ltd Black & Veatch	**Contract No.** N152003U **Figure No.** FRB10 (6 of 6)

Borehole	Drilling Enhanced Fracture Description
BH10	18.91m to 18.92m; fracture, 0 degs, stepped, rough, open.
BH10	20.47m to 20.50m; fracture, 20 degs, stepped, rough, open, clean.
BH10	20.60m to 20.63m; fracture, 10 degs, stepped, rough, open, clean.
BH10	At 21.50m; fracture, 5 degs, stepped, rough, open, clean.
BH10	21.56m to 21.57m; fracture, 5 degs, planar, rough, tight.
BH10	21.71m to 21.72m; fracture, 5 degs, planar, rough, tight.
BH10	21.98m to 22.00m; fracture, 5 degs, stepped, rough, open, clean.
BH10	22.34m to 22.37m; fracture, 10 degs, planar, rough, partly open to open, clean.
BH10	23.46m to 23.50m; fracture, 20 degs, stepped, rough, open, clean.
BH10	23.77m to 23.78m; fracture, 0 degs, stepped, rough, partly open to open, clean.
BH10	At 25.00m ; fracture, 0 degs, stepped, rough, open, clean.

Drilling Method	Cable Percussion & Rotary Cored	Borehole Diameter	150mm to 10.20m 146mm to 27.20m
Equipment	Comacchio MC-S 1200	Casing Diameter	180mm to 10.20m
Crew/Vessel	Skate 3E	Logged by	AP/CC
Dates Drilled	Start 26/04/2015 End 27/04/2015	Compiled by	jg 28/04/2015
		Approved by	

BOREHOLE No. BH33

Coordinates (National Grid)	195108.0	E
	238689.5	N
Seabed Level	-0.80	m CD

Date & Time	Casing Depth (m)	Depth to Water (m)	Sample Details: Depth (m) From	To	Type	No.	SPT Blows/N Drive mm Test	U100 Blows/ Recovery mm Result	Description of Strata	Depth (Thick-ness) (m)	Level	Legend
26/04			0.00	1.00	B	1			Greyish brown silty fine SAND. With rare shell fragments <4mm.	(1.00)		
	1.00	FULL	1.00	1.45	D	2	S8		Loose becoming medium dense greyish brown silty fine SAND. With rare shell fragments <4mm.	1.00	-1.80	
			1.50	2.00	B	3				(1.50)		
	2.00	FULL	2.00	2.45	D	4	S12					
			2.50	3.00	B	5			Medium dense greyish brown slightly gravelly silty SAND. Gravel is fine subrounded to subangular quartz and mudstone. With rare shell fragments <4mm.	2.50	-3.30	
	3.00	FULL	3.00	3.45	D	6	S15			(1.00)		
			3.50	4.00	B	7			Medium dense greyish brown slightly silty fine and medium SAND. With frequent shell fragments <3mm.	3.50	-4.30	
	4.00	FULL	4.00	4.45	D	8	S12			(1.00)		
			4.50	5.00	B	9			Medium dense greyish brown slightly gravelly silty fine and medium SAND. With frequent shell fragments <4mm. Gravel is fine and medium subangular to subrounded quartzite and quartz.	4.50	-5.30	
										(1.00)		

Remarks (See notes & keysheets)

1. Borehole carried out over water from jack up platform Skate 3E. Deck to mud 6.5m.
2. The borehole was advaced by cable percussion means to 10.20m switching to rotary coring due to ground conditions. Continued by rotary coring to 27.20m.
3. Chiselled from 5.90m to 6.20m (40 mins);chiselled from 9.80m to 10.20m (125 mins).
4. Groundwater not apparent during boring in marine environment. Water added throughout boring.

Scale 1:25

TUGRO	Project: FISHGUARD MARINA MARINE G.I. Conygar Stena Line Ltd Black & Veatch	Contract No. N152003U Figure No. FRB14 (1 of 6)

Drilling Method	Cable Percussion & Rotary Cored	**Borehole Diameter**	150mm to 10.20m 146mm to 27.20m
Casing Diameter	180mm to 10.20m	**BOREHOLE No.**	**BH33**
Equipment	Comacchio MC-S 1200	**Coordinates** (National Grid)	195108.0 E 238689.5 N
Crew/Vessel	Skate 3E	**Seabed Level**	-0.80 m CD
Dates Drilled	Start 26/04/2015 End 27/04/2015	**Logged by**	AP/CC 27/04/2015
Compiled by	jg 28/04/2015	**Approved by**	

Date & Time	Casing Depth (m)	Depth to Water (m)	Sample Details: Depth (m) From	To	Type	No.	SPT Blows/N Drive mm Test	U100 Blows/ Recovery mm Result	Description of Strata	Depth (Thick-ness) (m)	Level	Legend
	5.00	FULL	5.00	5.45	D	10	S23		Medium dense greyish brown SAND as previous sheet.			
			5.50	6.50	B	11			Medium dense dark greyish brown slightly silty slightly gravelly fine and medium SAND with low cobble content. Gravel is fine and medium subangular to subrounded flint, quartzite, mudstone. Cobbles are subrounded quartzite 65mm x 60mm x 50mm.	5.50	-6.30	
	6.50	FULL	6.50	6.88	D	12	S50/ 225		At 6.50m; (very dense).			
			6.90	8.00	B	13				(3.00)		
26/04	8.00	FULL										
			8.00	8.45			S12					
26/04	8.00	FULL										
	8.00	FULL										
			8.45	9.50	B	15				8.50	-9.30	
									Medium dense greyish brown gravelly fine and medium SAND. With rare shell fragments <5mm. Gravel is subangular to subrounded quartzite, quartz, mudstone and slate. Rare quartzite cobbles 90mm x 80mm x 60mm.	(1.50)		
	9.50	FULL	9.50	9.95	D	16	S28		Below 9.50m; slightly gravelly.			
			9.95	10.20	B	17				10.00	-10.80	

Remarks
(See notes & keysheets)

Scale 1:25

TUGRO

Project
FISHGUARD MARINA MARINE G.I.
Conygar Stena Line Ltd
Black & Veatch

Contract No. N152003U

Figure No. FRB14 (2 of 6)

Drilling Method	Cable Percussion & Rotary Cored	**Borehole Diameter**	150mm to 10.20m 146mm to 27.20m
Casing Diameter	180mm to 10.20m	**BOREHOLE No.**	**BH33**
Equipment	Comacchio MC-S 1200	**Coordinates**	195108.0 E
Drill Fluid	Sea water	**(National Grid)**	238689.5 N
Crew/Vessel	Skate 3E	**Seabed Level**	-0.80 m CD
Dates Drilled	Start 26/04/2015 End 27/04/2015	**Logged by**	AP/CC 27/04/2015
Compiled by	jg 28/04/2015	**Approved by**	

Date & Time	Casing Depth (m)	Water Depth (m) (Flush Return) %	Sample/Core Recovery Depth (m) From	To	Type TCR %	No. SCR %	RQD %	SPT Blows /N Core Size (mm)	Result or U100 Blows/ Rec. mm	Description of Strata	Depth (Thick-ness) (m)	Level	Legend
26/04	10.20	FULL								Very dense orangish brown gravelly fine to coarse SAND with high cobble content. Gravel is fine to coarse subangular quartzite, slate and granite. Cobbles are subangular quartzite and granite 70mm x 80mm x 60mm	10.00	10.80	
26/04	10.20	FULL								10.20m to 10.60m; assumed zone of core loss.	(1.00)		
		(100)	10.20-11.00		50					10.80m to 11.00m; locally clayey (soft brown).	11.00	11.80	
		(100)	11.00-11.10		100			C48/ 75*		NO RECOVERY. At 11.00m; cobble.			
	10.20	FULL	11.00-11.08								(1.00)		
		(100)	11.10-12.00		0						12.00	12.80	
	10.20	FULL	12.00-12.85					S1/ 850*		No recovery - fines probably washed or blown away (described as very loose gravelly SAND).			
		(100)	12.00-13.00		0						(1.50)		
	10.20	FULL	13.00-13.45					S17		13.00m to 13.45m; SPT sample. Medium dense orange brown fine and medium SAND.			
		(100)	13.00-14.00		50						13.50	14.30	
										Brown gravelly medium and coarse SAND. Gravel is angular to subrounded fine and medium of mixed lithologies mainly andesite and rhyolite.	(0.20)		
											13.70	14.50	
										Brown gravelly fine and medium SAND with medium cobble content. Gravel is angular fine to coarse of mainly andesite and rhyolite. Cobbles (90mm x 80mm x 50mm) are subangular of andesite.	(0.30)		
	10.20	FULL	14.00-14.23					C34/ 75			14.00	14.80	
										Assumed zone of core loss. 14.00m to 14.23m; SPT very dense.	(0.75)		
		(100)	14.00-15.00		25						14.75	15.55	
										Recovered as grey, cream and brown very angular to angular fine to coarse GRAVEL of mainly rhyolite. Possible loss of fines.			

Remarks
(See notes & keysheets)

Scale 1:25

TUGRO	**Project** FISHGUARD MARINA MARINE G.I. Conygar Stena Line Ltd Black & Veatch	**Contract No.** N152003U **Figure No.** FRB14 (3 of 6)

Drilling Method	Cable Percussion & Rotary Cored	Borehole Diameter	Casing Diameter
Equipment	Comacchio MC-S 1200	150mm to 10.20m 146mm to 27.20m	180mm to 10.20m
Drill Fluid	Sea water		
Crew/Vessel	Skate 3E		
Dates Drilled	Start 26/04/2015 End 27/04/2015	Logged by AP/CC 27/04/2015	Compiled by jg 28/04/2015
		Approved by	

BOREHOLE No. BH33

Coordinates	195108.0	E
(National Grid)	238689.5	N
Seabed Level	-0.80	m CD

Date & Time	Casing Depth (m)	Water Depth (m) (Flush Return) %	Sample/Core Recovery Depth (m) From	To	Type	No.	TCR %	SCR %	RQD %	SPT Blows /N	Core Size (mm)	Description of Strata	Depth (Thick-ness) (m)	Level	Legend
	10.20	FULL	15.00	15.36						C68/	210	Recovered as GRAVEL as previous sheet. 15.00m to 15.60m; assumed zone of core loss.			
		(100)	15.00	16.00		40							(1.35)		
26/04	16.00	FULL										15.90m to 16.00m; very stiff brown slightly gravelly fine and medium sandy clay.			
26/04	16.00	FULL	16.00	16.02						C50/		16.00m to 16.10m; assumed zone of core loss.			
	10.20	FULL								6			16.10	-16.90	
			16.20	16.57	CL	1						Very weak to weak fine grained ANDESITE. Partial to whole disintegration penetrating to 15mm along fractures and partial to whole discolouration to orange brown. Slightly weathered. Single non intact zone 110mm. Fracture Set 1: subvertical to vertical planar to curved rough partially open to open with brown staining and up to 15mm of clay and medium to coarse sand infill and 30mm of clastic infill on core edge. 16.10m to 16.17m; fracture, 80 to 90 degs, curviplanar, rough, partly open, brown staining. 16.15m to 16.22m; fracture, 30 degs, planar, rough, open, clean, brown staining. 16.19m to 16.43m; fracture, incipient, 70 to 90 degs, curviplanar, clean. 16.34m to 16.41m; fracture, incipient, 70 degs, curviplanar, clean. 16.71m to 16.93m; fracture, 70 to 90 degs, curviplanar to stepped, rough, partly open, brown staining. 16.85m to 17.00m; fracture, 85 to 90 degs, planar, rough, partly open, brown staining. 16.89m to 16.92m; fracture, 0 to 5 degs, stepped, rough, open, clean, brown staining.			
		(100)	16.00	17.00	90	46	44						(2.10)		
		(100)	17.00	18.20	100	60	48					17.00m to 17.12m; fracture, 90 degs, planar, rough, open, brown staining. 17.03m to 17.14m; fracture, 85 degs, planar, rough, open, brown staining. 17.10m to 17.14m; fracture, 0 to 80 degs, stepped, rough, open, brown staining. 17.14m to 17.25m; non intact. Recovered as very angular clasts <200x200x200mm. 17.25m to 17.50m; fracture, 80 degs, planar, rough, open, <30mm of clastic infill, brown staining. Non intact down edge of core. 17.53m to 18.00m; fracture, 80 to 90 degs, planar to curviplanar, open, brown staining. 17.56m to 17.79m; fracture, 85 degs, planar, rough, open, brown staining. 18.00m to 18.13m; fracture, 85 degs, planar, rough, partly open, brown staining. 18.12m to 18.45m; fracture, 20 degs, planar, rough, open, brown staining.	18.20	-19.00	
		(100)	18.20 19.00	19.70 19.33	100 CL	86 2	86					Medium strong to strong light grey to dark grey porphyritic RHYOLITE. Slightly weathered with partial discolouration to fractures penetrating up to 10mm. Fracture Set 1: inclined (45 to 70 degrees) extremely closely to very widely spaced (20/1050/3060) planar occasionally stepped rough open locally with brown staining. Fracture Set 2:			
		(100)	19.70	20.00	100	70	70								

Remarks (See notes & keysheets)

5 Fracture Set 1; inclined, 18.98m to 26.34m.
Fracture Set 2; subhorizontal, 25.14m to 26.78m

6 SCR, RQD and Fracture Spacing determined for assessed natural fractures but not drilling enhanced fractures. Non intact core lengths not counted towards SCR and RQD lengths. See drilling enhanced fracture records at end of borehole record. Clasts in core composed of surrounding bedrock.

Scale 1:25

TUGRO	Project FISHGUARD MARINA MARINE G.I. Conygar Stena Line Ltd Black & Veatch	Contract No. N152003U Figure No. FRB14 (4 of 6)

Drilling Method	Cable Percussion & Rotary Cored	**Borehole Diameter**	150mm to 10.20m 146mm to 27.20m
Casing Diameter	180mm to 10.20m	**BOREHOLE No.**	**BH33**
Equipment	Comacchio MC-S 1200	**Coordinates**	195108.0 E
Drill Fluid	Sea water	**(National Grid)**	238689.5 N
Crew/Vessel	Skate 3E	**Seabed Level**	-0.80 m CD
Dates Drilled	Start 26/04/2015 End 27/04/2015	**Logged by**	AP/CC 27/04/2015
		Compiled by	jg 28/04/2015
		Approved by	

Date & Time	Casing Depth (m)	Water Depth (m) (Flush Return) %	Sample/Core Recovery Depth (m) From	To	Type TCR %	No. SCR %	RQD %	SPT Blows /N Core Size (mm)		Description of Strata	Depth (Thick-ness) (m)	Level	Legend
		(100)	20.00	21.20	100	84	84			locally subhorizontal to horizontal closely to medium spaced (150/275/420) planar to stepped occasionally curved rough open locally with brown staining. Fracture Set 3: subvertical to vertical planar stepped occasionally curved rough partially open to open mainly with brown staining. Some fractures possibly created or opened by drilling enhancement that were incipient or closed in situ. 18.20m to 18.89m; fracture, 85 to 90 degs, planar to stepped, rough, partly open, brown staining with <10mm penetration. 18.54m to 18.57m; fracture, 20 degs, planar, rough, open, brown staining. 18.70m to 18.84m; fracture, 70 to 90 degs, curviplanar, rough, open, brown staining. 18.93m to 19.07m; fracture, 60 degs, planar to stepped, rough, partly open, brown staining. 18.94m to 19.02m; fracture, 45 degs, planar to stepped. 19.55m to 19.67m; fracture, incipient. 80 degs, planar to stepped. 19.76m to 20.00m; fracture, 70 to 90 degs, curviplanar to stepped, rough, open, brown staining.			
			20.85	21.20	CL	3							
		(100)	21.20	22.70	100	100	100			20.00m to 20.28m; fracture, incipient, 70 to 90 degs, curviplanar. 20.20m to 20.41m; fracture, 80 degs, planar, rough, open, brown staining. 20.32m to 20.47m; fracture, 45 degs, planar to stepped, rough, open, brown staining. 20.42m to 20.52m; fracture, 75 degs, planar to stepped, rough, open, brown staining. 20.77m to 20.88m; fracture, 60 degs, planar to stepped, rough, open, brown staining. 21.24m to 21.31m; fracture, 70 degs, planar, rough, open, brown staining. 21.44m to 21.78m; fracture, 85 to 90 degs, curviplanar, brown staining with 10mm penetration. 21.74m to 21.90m; fracture, 80 degs, planar to stepped, rough, partly open, brown staining. 23.20m to 23.33m; fracture, 70 degs, planar, rough, open, brown staining. 23.24m to 23.36m; fracture, 70 degs, planar, rough, open, brown staining. 23.36m to 23.92m; fracture, 85 degs, planar, rough, open, brown staining. 23.47m to 23.63m; fracture, 70 degs, planar. 23.79m to 23.84m; fracture, 0 to 80 degs, stepped, rough, open, brown staining. 23.84m to 23.93m; fracture, 45 degs, planar, rough, open, brown staining. 24.07m to 24.14m; fracture, 45 degs, stepped, rough, open, brown staining. 24.39m to 24.54m; fracture, 70 degs, stepped to planar, rough, open, brown staining.	(9.00)		
			22.70	23.30	CL	4							
		(100)	22.70	24.20	100	79	74						
		(100)	24.20	25.70	100	95	95						

Remarks
(See notes & keysheets)

Scale 1:25

TUGRO	**Project** FISHGUARD MARINA MARINE G.I. Conygar Stena Line Ltd Black & Veatch	**Contract No.** N152003U **Figure No.** FRB14 (5 of 6)

Drilling Method	Cable Percussion & Rotary Cored	**Borehole Diameter**	150mm to 10.20m 146mm to 27.20m
Casing Diameter	180mm to 10.20m	**BOREHOLE No.**	**BH33**
Equipment	Comacchio MC-S 1200	**Coordinates**	195108.0 E
Drill Fluid	Sea water	**(National Grid)**	238689.5 N
Crew/Vessel	Skate 3E	**Seabed Level**	-0.80 m CD
Dates Drilled	Start 26/04/2015 End 27/04/2015	**Logged by**	AP/CC 27/04/2015
		Compiled by	jg 28/04/2015
		Approved by	

Date & Time	Casing Depth (m)	Water Depth (m) (Flush Return) %	Sample/Core Recovery Depth (m) From	To	Type TCR %	No. SCR %	RQD %	SPT Blows /N Core Size (mm)		Description of Strata	Depth (Thick-ness) (m)	Level	Legend
										25.13m to 25.15m; fracture, 0 to 10 degs, curviplanar, rough, open, brown staining. 25.27m to 25.31m; fracture, 10 degs, planar to stepped, rough, open, brown staining. 25.50m to 25.70m; fracture, 80 degs, planar to stepped, rough, open, brown staining. 25.66m to 25.67m; fracture, 0 degs, stepped, rough, open, brown staining. 25.70m to 25.79m; fracture, 75 degs, planar, rough, open, brown staining. 25.95m to 25.97m; fracture, 0 degs, stepped, rough, open, brown staining.			
		(100)	25.70-27.20		100	90	90			26.15m to 26.19m; fracture, 10 to 70 degs, stepped, rough, open, brown staining. 26.22m to 26.27m; fracture, 10 to 30 degs, stepped, rough, open, brown staining. 26.29m to 26.39m; fracture, about 45 degs, curviplanar, rough, open, brown staining. At 26.38m; fracture, 5 degs, planar, rough, open, <10mm of clastic infill. 26.39m to 26.50m; fracture, 0 to 85 degs, curviplanar, rough, tight, brown staining, 26.60m to 26.66m; 5 No. fractures, 0 degs, extremely closely spaced, planar to stepped, rough, partly open, locally clastic. 26.78m to 26.79m; fracture, 0 degs, stepped to planar, rough, open, brown staining.			
			26.69-27.13		CL	5							
27/04	27.20	FULL									27.20	-28.00	
										End of Borehole			

Remarks
(See notes & keysheets)

Scale 1:25

	Project FISHGUARD MARINA MARINE G.I. Conygar Stena Line Ltd Black & Veatch	**Contract No.** N152003U **Figure No.** FRB14 (6 of 6)

Borehole	Drilling Enhanced Fracture Description
BH33	16.10m to 16.82m; fracture, 80 to 90 degs, planar to curviplanar, rough, open, <15mm of clastic infill. Recovered non intact on outer side of fracture.
BH33	At 17.74m; fracture, 0 degs, planar, rough, tight.
BH33	At 17.87m; fracture, 0 degs, planar, rough, tight.
BH33	18.55m to 18.65m; fracture, 70 degs, stepped, rough, tight.
BH33	19.32m to 19.34m; fracture, 0 to 10 degs, planar to stepped, rough, partly open.
BH33	19.66m to 19.70m; fracture, 45 degs, planar to stepped, rough, open.
BH33	19.70m to 19.72m; fracture, 45 degs, planar, rough, open.
BH33	At 19.87m; fracture, 0 degs, planar, rough, partly open.
BH33	21.18m to 21.20m; fracture, 10 degs, planar to stepped, rough, open.
BH33	21.20m to 21.27m; fracture, 0 to 80 degs, curviplanar, rough, open.
BH33	21.85m to 21.95m; fracture, planar to stepped, rough, open.
BH33	22.42m to 22.54m; fracture, 80 degs, planar, rough, tight, clean.
BH33	22.67m to 22.70m; fracture, 10 degs, stepped, rough, open.
BH33	24.20m to 24.23m; fracture, 30 degs, stepped, rough, open.
BH33	24.61m to 24.74m; fracture, 70 degs, stepped to planar, rough, partly open, clean.
BH33	27.12m to 27.14m; fracture, 10 degs, stepped to planar, rough, partly open.

17.B

APPENDIX 17.B
Ground Investigation Report
Geotechnical Report

Geotechnical Report:

POR-00886 Geotechnical Site Investigation for the Fishguard Linkspan Project

Client:

Stena Line

In Situ Project No.: POR-00886

Document Log

Issue	Date	Status	Content	Check
01	2025-04-15	Draft for review	RC	DW

Document Control

Responsibility	Name	Position
Content	R Cooke BSc (Hons) PhD FMin Soc	Principal Geologist, In Situ SI
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Issue Log

Issue	Date	Issued by	Position
01	2025-04-15	R Cooke BSc (Hons) PhD FMin Soc	Principal Geologist, In Situ SI

The information presented in this factual report is based on the acquisition and interpretation of data acquired during the course of the named project. The interpretation is based on standard methodologies and is carried out to cover any requirements provided to us in any pre-start Contract Specification or Scope of Work. Whilst this report has been prepared with due care and diligence, In Situ Site Investigation Limited, or any other named individual or party involved in the preparation of this report, cannot be held responsible, or be liable for any use of this report for any purposes other than that for which it was originally prepared.

Whilst every effort has been made to ensure the accuracy of the data supplied and any interpretation derived from it, the possibility exists of variations in the ground conditions spatially adjacent to those locations specifically covered in this report. No liability can be accepted for any such variations in ground conditions. The contents of this report are not exhaustive and any end-user of this report, and the information contained within it, must satisfy themselves of the appropriateness of the results presented.

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Abbreviations

BD	Bulk density
BS	British Standard
cm	Centimetre
DD	Dry density
EN ISO	European Standard, International Organization for Standardization
GS	Grab sample
GeoForce	Geoforce Technical Services Limited
InSitu	In Situ Site Investigation Limited
kPa	Kilopascal
LV	Motoised laboratory vane
m	Metre
M/V	Motor vessel
MC	Moisture Content
mCD	Vertical datum, metres relative to Chart Datum
MMO	Marine Management Organisation, UK
SBX	Shearbox
Stena Line	Stena Line Ports Limited
TV	Torvane
UK	United Kingdom
µm	Micron (micrometre)
VC	Vibrocore

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1 Introduction

1.1 Project Overview

The Port of Fishguard is owned and operated by Stena Line Ports Limited. (Stena Line). In early March 2025, a contract was awarded to GeoForce Technical Service Limited (GeoForce) to carry out a marine ground investigation. The ground investigation was required to provide information to assist in the design of piling, reclamation works and dredging for the Fishguard Linkspan Replacement project. In particular, the results of the investigation are to be used to develop the Marine Licence application for both construction and dredging works, which includes the possible disposal of dredged material out at sea.

The project scope was specified by RPS, Belfast. In Situ Site Investigation Limited (InSitu) were subcontracted via GeoForce to provide geotechnical support to the survey, together with onshore logging, laboratory testing and reporting services.

The Port of Fishguard is located 1 mile north west of Fishguard town centre (*Figure 1*). Fishguard is located on the north coast of Pembrokeshire, south west Wales.

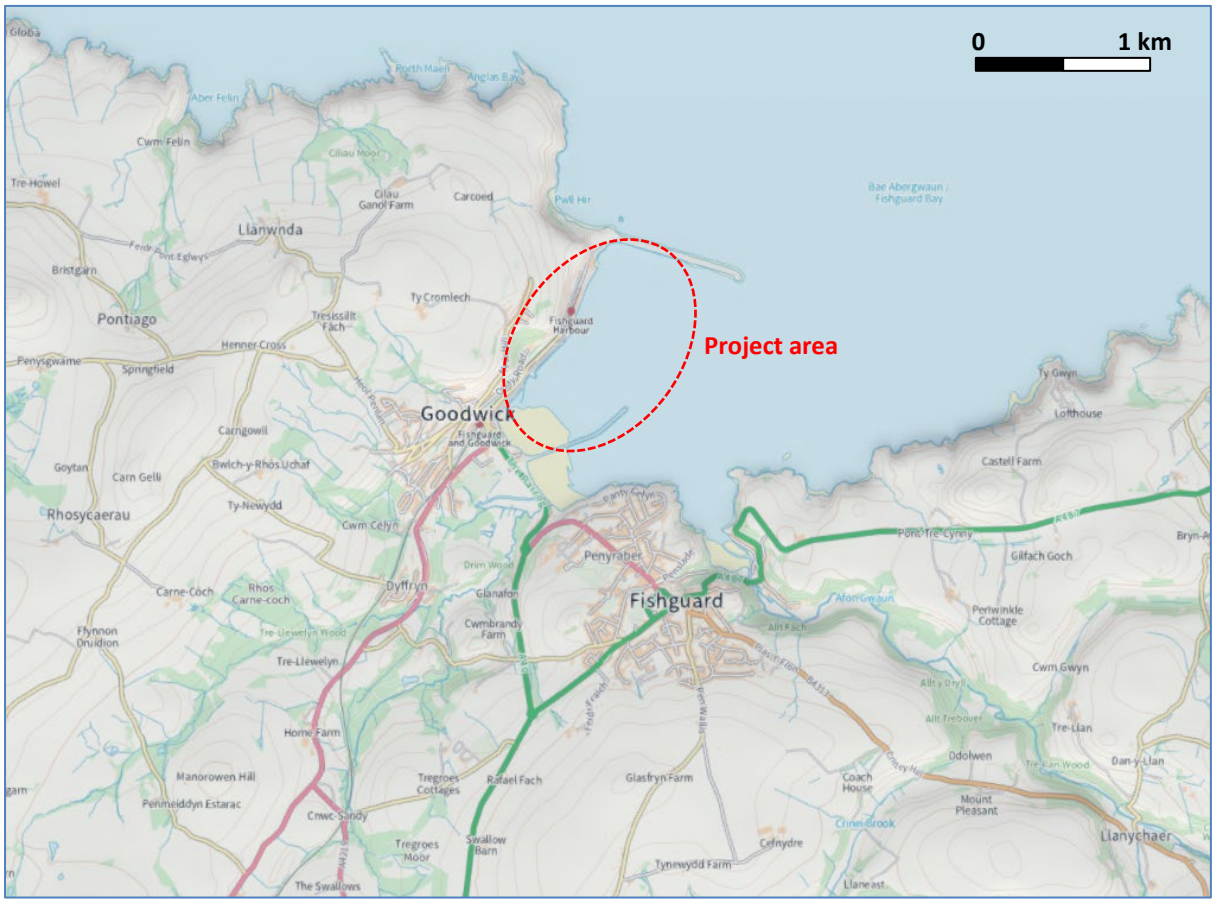


Figure 1 Project area, Port of Fishguard.

1.2 Scope of Work

The scope of work, specified by RPS, comprised seabed sampling which was designed to provide both geotechnical and geoenvironmental characterisation of the encountered sediments at the proposed survey locations.

The seabed sampling was carried out using grab sampling and vibrocoring techniques. For grab sampling the recovered material, which represents the sediment present at the seabed interface, to a nominal depth of approximately 0.20 m, was required to fulfil the requirements of environmental chemical testing advised by the statutory permitting body, Natural Resources Wales. Further details of the environmental testing are provided in Section 3. Note is made that during the grab sampling, duplicate samples were taken which were to be used for ecological macrofaunal analysis, by an RPS appointed specialist subcontractor. The scope of the macrofaunal sampling and analysis is beyond the remit of this report.

Seabed sampling was also carried out using a high power vibrocorer (VC) to a maximum target depth of 6 m below seabed level. The VC sampling was required to provide material for environmental chemical testing, or for geotechnical description, classification and geotechnical laboratory testing.

The required survey locations are detailed below (*Table 1*). Further details of the fieldwork carried out are provided in Section 2.

Table 1 Scope of work.

Location ID	Co-ordinates		Depth required	Comment
	Easting	Northing		
GS-003	195145.33	238728.72	-	Same location as VC-003
GS-006	195187.08	238802.94	-	Same location as VC-006
GS-008	195248.61	238846.66	-	Same location as VC-008
GS-009	195362.71	239163.98	-	Same location as VC-009
GS-010	195393.27	238771.44	-	Same location as VC-010.
VC-001	195132.86	238693.14	6 m	For geotechnical analysis
VC-002	195123.92	238720.16	6 m	For geotechnical analysis
VC-003	195145.33	238728.72	4 m	For environmental analysis
VC-004	195150.14	238754.94	6 m	For geotechnical analysis
VC-005	195164.78	238823.52	6 m	For geotechnical analysis
VC-006	195187.08	238802.94	4 m	For environmental analysis
VC-007	195169.88	238793.98	6 m	For geotechnical analysis
VC-008	195248.61	238846.66	5 m	For environmental analysis

Location ID	Co-ordinates		Depth required	Comment
	Easting	Northing		
VC-009	195362.71	239163.98	3 m	For environmental analysis
VC-010	195393.27	238771.44	3 m	For environmental analysis

This report presents the factual records of the fieldwork, the results of the recovered geotechnical core logging and geotechnical and environmental laboratory testing results.

1.3 Standards and Specification

The investigation was carried out in accordance with the contract documentation; issued to GeoForce by RPS. The general technical standards, identified below, were applied to the relevant aspects of the geotechnical survey. This list is not exhaustive, and where additional Standards or methodologies have been applied, these are referred to in the text. This applies in particular to environmental chemical testing methods, where accredited in-house methods were used.

- POR00886-RPS-SI-XX-RP-C-0002, Geotechnical Site Investigation Fishguard Specification
  - Eurocode 7, Part 2 EN 1997-2 (fieldwork and overall data analysis)
  - BS EN ISO 19901-8 (all aspects)
  - BS EN ISO 14688-1 & 14688-2 (soil description and classification)
  - BS EN ISO 17892 (geotechnical laboratory testing, sediment)
  - BS 1377

2 Fieldwork

2.1 Summary

The proposed geotechnical locations were selected by RPS. The coordinates and seabed levels, shown on the records, were provided by RPS.

The fieldwork was carried out from the Motor Vessel (M/V) Willendeavour, a multicat type workboat, owned and operated by Williams Shipping (*Figure 2*). For this project the M/V Willendeavour was taken on a short charter direct by Stena Line.



Figure 2 M/V Willendeavour.

The M/V Willendeavour mobilised to Fishguard from Pembroke on the 13th March, 2025, with mobilisation of the grab sampling equipment onto the vessel carried out that day. Grab sampling was completed in the morning of the 14th March.

VC equipment was mobilised onto the vessel and wet-tested, prior to undertaking a single VC location in the afternoon of the 14th March. Note is made hat marine operations could not be carried out from 11:00 hours till 14:00 hours daily, due to Stena Line passenger ferry operations. The remaining VC locations were completed on the 15th and 16th March, with demobilisation of the equipment from the vessel completed on the morning of the 17th March.

2.2 Grab Sampling

2.2.1 General

The grab sampling was undertaken using a Van Veen Grab, owned and operated by GeoForce (*Figure 3*). The grab was a double bucket unit, which in theory can recover up to 0.2m^2 of material (2 x 12 litre).



Figure 3 Grab sampler during deployment and on recovery frame.

The grab was deployed to the seabed on a steel wire rope, via the vessel mounted Hiab winch unit. The grab self-triggers when it hits the seabed, with the sediment scooped into the grab buckets. Upon recovery to the vessel deck, the grab unit was lowered onto the recovery frame, the buckets were opened with the recovered sediment dropping into clean plastic buckets. The recovered sediment was then immediately subsampled into the appropriate 125 and 250 millilitre glass jars and 0.5 litre plastic tubs for subsequent environmental chemical analysis. A single large 5 litre plastic tub of material was retained for geotechnical description.

The completed grab sampling activity is detailed below in *Table 2*. Following completion of the grab sampling, the recovered subsamples were placed into cool boxes with frozen ice packs and transported to the Rotherham facility of InSitu. The subsamples for environmental chemistry testing were placed into a freezer unit overnight and were then couriered directly to the Socotec testing laboratory, at Burton Upon Trent.

Table 2 Completed GS fieldwork activity.

Date	Location ID	Co-ordinates		Comment
		Easting	Northing	
14/03/2025	GS-003	195145.33	238728.72	Same location as VC-003
	GS-006	195187.08	238802.94	Same location as VC-006
	GS-008	195248.61	238846.66	Same location as VC-008
	GS-009	195362.71	239163.98	Same location as VC-009
	GS-010	195393.27	238771.44	Same location as VC-010.

Upon arrival at Rotherham, the subsamples for geotechnical description were opened, photographed and logged. The grab sample records are presented in Appendix A. The records provide descriptions of the materials encountered, in accordance with BS EN ISO 14688-1 and BS EN ISO 14688-2, for sediments. Photographs of the recovered material are also presented within the records.

2.3 Geotechnical and Environmental Cores

2.3.1 General

The core samples were recovered using an electrically operated high-power vibrocoring unit, deployed on a steel wire rope, via the vessel mounted Hiab winch unit (*Figure 4)*. The corer was equipped with a 6 m long barrel and was fitted with clear PVC 100 mm OD inner liner. A 'basket-spring type' core catcher was fitted above the cutting shoe, in the base of the vibrocore barrel, to maximise retention of the penetrated sediment during retraction from the seabed and subsequent retrieval of the unit to the vessel deck. The sampling was carried out in general accordance with BS EN ISO 19901-8.

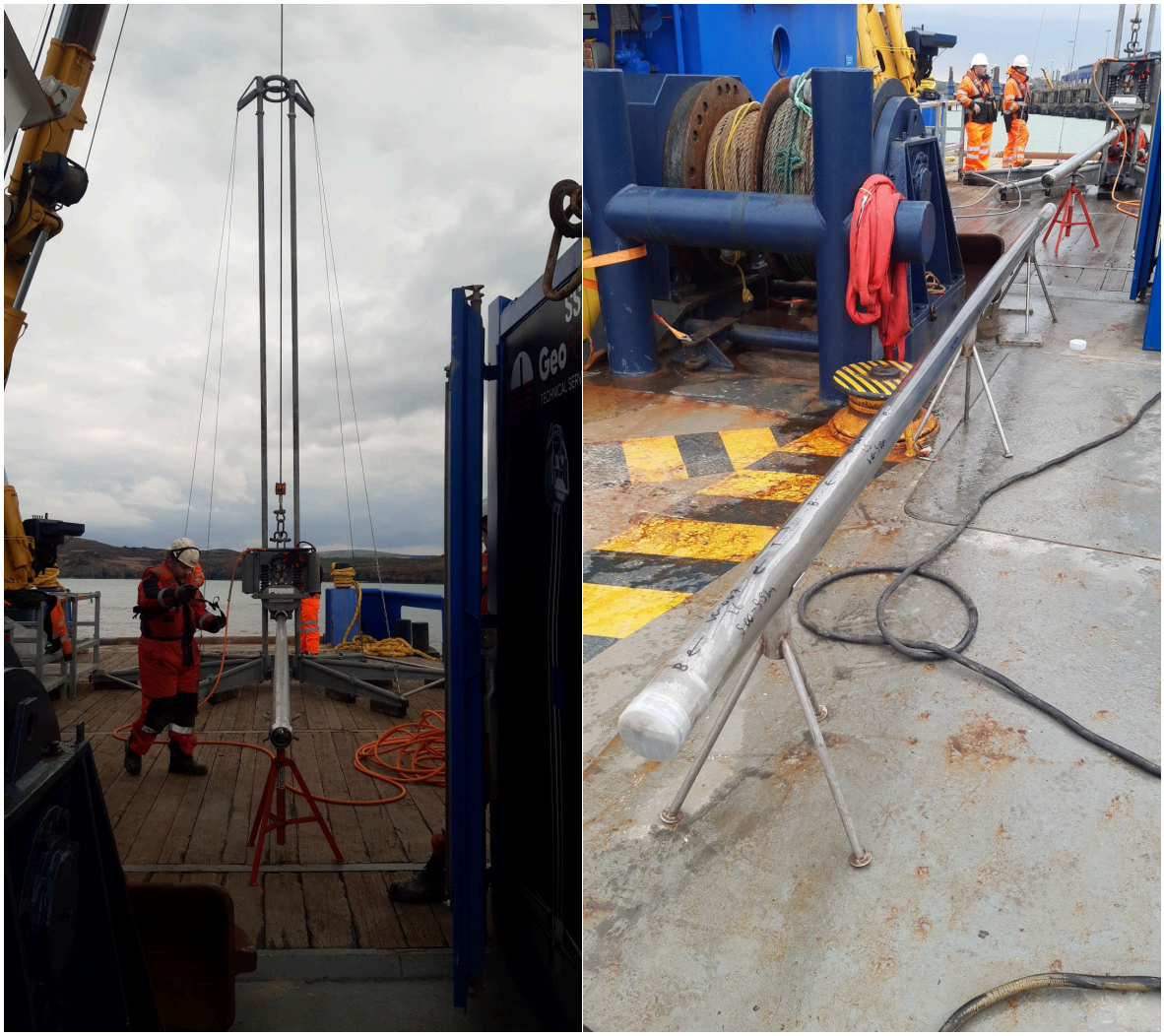


Figure 4 VC deployment and recovered core.

The completed seabed sampling fieldwork activity is shown in *Table 3*. A total of ten VC were carried out. Two re-attempts were required at a single location (VC-005), due to low recoveries of 1.52 m (VC-005), 3.70 m (VC-005A) and 1.65 m (VC-005B).

The cores required for environmental analysis were carried out after the geotechnical cores, such that the subsequent holding time of the recovered material was reduced to a minimum.

Table 3 Completed VC fieldwork activity.

Date	Location ID	Co-ordinates		Depth required	Actual recovery	Comment
		Easting	Northing			
14/03/2025	VC-007	195169.88	238793.98	6 m	5.60 m	For geotechnical analysis
15/03/2025	VC-001	195132.86	238693.14	6 m	5.22 m	For geotechnical analysis
	VC-002	195123.92	238720.16	6 m	5.20 m	For geotechnical analysis
	VC-004	195150.14	238754.94	6 m	5.00 m	For geotechnical analysis
	VC-005A	195164.78	238823.52	6 m	3.70 m	For geotechnical analysis
16/03/2025	VC-003	195145.33	238728.72	4 m	4.10 m	For environmental analysis
	VC-006	195187.08	238802.94	4 m	5.10 m	For environmental analysis
	VC-008	195248.61	238846.66	5 m	5.50 m	For environmental analysis
	VC-009	195362.71	239163.98	3 m	5.20 m	For environmental analysis
	VC-010	195393.27	238771.44	3 m	5.20 m	For environmental analysis

2.3.2 Sample Handling (Offshore)

Following recovery of a core sample to the vessel deck, each liner was successively cut into 1.0 m sections. The core liners were then appropriately labelled, sealed, and placed into secure storage crates. These crates were transported to the logging facility of InSitu, based in Rotherham, arriving on the 17th March, 2025.

2.3.3 Sample Logging (Onshore)

Upon their arrival at the onshore logging facility, each core liner in turn was removed from storage, split longitudinally, photographed, and logged. The environmental cores were processed first, such that the subsamples for environmental chemistry testing, taken at 1 m depth intervals from the split cores, were placed immediately into a freezer unit and then couriered directly to the Socotec testing laboratory, at Burton Upon Trent.

During core logging, the qualitative carbonate content of the sediment was assessed via observing the reaction of each stratum type to the addition of dilute hydrochloric acid (10%). The qualitative descriptor applied is as per BS EN ISO 14688-1, detailed below (*Table 4)*.

Table 4 Terms for carbonate content from acid test.

Carbonate content	Test result at 10% Hydrochloric Acid (HCl)
No descriptor applied (non-calcareous)	Addition of HCl produces no effervescence
Slightly calcareous	Addition of HCl produces weak or sporadic effervescence
Calcareous	Addition of HCl produces clear, but not sustained effervescence
Highly calcareous	Addition of HCl produces strong and sustained effervescence

In the geotechnical cores, shear strength measurements were taken on any suitable cohesive strata using a Torvane (TV). Motorised laboratory vane tests (LV) were also carried out on unsplit core liner ends, after photography but prior to logging, where it was obvious that cohesive material was present.

During logging small subsamples were also taken from the main strata types for determination of moisture content (MC) and bulk/dry densities (BD/DD).

The core records are presented in Appendix A. The records provide descriptions of the materials encountered, in accordance with BS EN ISO 14688-1 and BS EN ISO 14688-2, for sediments. Photographs of the recovered cores are also presented within the records.

3 Laboratory Testing

3.1 General

A limited amount of laboratory testing was carried out on the recovered geotechnical core material (*Table 5*). Chemical testing was carried out on the grab samples and subsamples from the recovered environmental cores.

Table 5 Summary of geotechnical testing.

Type	Carried Out On	Quantity	Remarks & Test Standard
Moisture Content (MC)	Granular/Cohesive	17	Carried out on intact liner material together with bulk/dry density. BS EN ISO 17892-1.
Bulk Density (BD)	Granular/Cohesive	17	Carried out on intact liner material together with dry density. BS EN ISO 17892-2.
Dry Density (DD)	Granular/Cohesive	17	As above.
Shear strength (Torvane, TV)	Cohesive	8	Carried out during logging (TV).
Shear Strength (Motorised Lab Vane, LV)	Cohesive	4	Carried out during logging. Peak & remould. BS 1377: Part 7.
Particle Size Distribution Analysis (PSD)	Granular/Cohesive	19	By wet sieve. BS EN ISO 17892-4.
PSD sedimentation (SED)	Granular/Cohesive	11	<63 µm size fraction, by pipette. BS EN ISO 17892-4
Shearbox (SBX)	Granular	5	Peak & residual. BS EN ISO 17892-10
Chemical Tests (CHEM)	Granular/Cohesive	24	RSP CHEM and WASTE suites MMO/Natural Resources Wales

3.2 Classification Tests

Moisture Content

Water (moisture) content has been determined from intact sediment subsamples taken directly from the split core liners using a thin walled stainless steel cutting ring to ensure optimal sample quality and minimal disturbance. Whilst due care is taken to ensure an undisturbed sample is utilised for moisture content determination, it must be considered that the original in-situ moisture content, especially in granular material, could have been modified by the initial physical act of sampling (i.e., vibration and grain packing/pore space readjustment), together with potential free drainage during handling, sample transport and storage, prior to being tested. The results are summarised in Appendix B and are shown on the VC logs.

Bulk & Dry Density

Natural bulk and dry densities were determined from the same intact subsamples as used for moisture contents, taken directly from the split core liners using a thin walled stainless steel cutting ring to ensure optimal sample quality and minimal disturbance. The results are summarised in Appendix B, and are shown on the VC logs.

Particle Size Distribution (Sieve & Sedimentation)

Particle Size Distribution (PSD) tests were performed on a range of sediment types from the cores, which together with the logging, provides a complete sediment description profile. The samples for PSD were taken over a representative range in any given stratum, typically a minimum of 0.5 m if possible. The fines component (<63 µm fraction) was determined via sedimentation using the pipette method, with a trigger level of >10 % total fines determined from sieving. The results are summarised in Appendix B, followed by the individual test reports.

Note is made that PSD testing was also carried out as part of the environmental chemical testing suites. This was carried out by wet & dry sieving, followed by laser diffraction analysis. The results have been incorporated into the geoenvironmental core and grab sample logs and have been used to assist material classification.

3.3 Strength Tests

Shear Strength (Torvane)

Shear strength determinations were made during onshore logging with a Torvane. The results are summarised in Appendix B and are shown on the VC logs.

Shear Strength (Motorised Lab Vane)

Shear strength determinations were made on undisturbed liner material using a motorised Laboratory Vane (LV) to determine both peak and residual shear strengths. The results are summarised in Appendix B, followed by the individual test reports. The data are also shown on the VC logs.

Shear Box

Small shearbox testing (SBX) was carried out on samples taken over a representative range in granular strata. The testing was carried out on three subsamples from each sample, to provide peak and residual friction angles, and values of cohesion. The stage pressures were set by RPS, with an initial phase followed by second and third stages which were double the previous stage pressure. The SBX results are provided in Appendix B, followed by the individual test reports.

3.4 Chemical Tests

Chemical testing was carried out on the recovered grab samples and on subsamples taken at 1m depth intervals in the recovered environmental cores. Two testing suites were specified by RPS, termed 'RPS CHEM' and 'RPS WASTE'.

The RPS CHEM suite follows the requirements of a sampling plan provided to Stena Line by Natural Resources Wales, to support the Marine Licence application for dredging and subsequent disposal of material. The testing suite is detailed below (*Table 6*). The testing was carried out at the environmental chemistry testing laboratory of Socotec, located at Burton Upon Trent.

Table 6 RPS CHEM testing suite.

Determinand	Limit of Detection
Organic Matter (Total Organic Carbon)	0.02 %
Total Organic Matter by LOI	0.20 %
Particle Size Distribution	%
Metals Suite (As, Cd, Cr, Cu, Hg, Ni, Pb, Zn)	0.01 – 2 mg/kg
Chromium VI	0.1 mg/kg
Organotins (DBT, TBT)	0.001 mg/kg
PAHs (DTI 2-6 Ring Aromatics + EPA 16)	1 µg/kg
Total Hydrocarbon Content	1 mg/kg
PCBs (25 Congeners inc. ICES 7)	0.00008 mg/kg
Brominated Flame Retardents (inc. BDE209)	0.0001 mg/kg
Organochlorine Pesticides	0.0001 mg/kg

The RPS WASTE suite was defined by RPS to meet their internal requirements for assessment of potential contamination if the dredged material was likely to be transported to a land-based disposal site. The testing suite is detailed below (*Table 7*). Note, there is some cross-over with the RPS CHEM suite, and where duplication exists the results are provided from the RPS CHEM suite, i.e. the material was not tested twice for the same determinand.

Table 7 RPS WASTE testing suite.

Determinand	Limit of Detection
Moisture Content & Total Solids	0.20 %
Carbonate	0.12 %

Determinand	Limit of Detection
Organic Matter (Total Organic Carbon)	0.02 %
Total Organic Matter by LOI	0.20 %
Particle Size Distribution	%
Metals Suite (As, Cd, Cr, Cu, Hg, Ni, Mn, Pb, Sn, Zn)	0.01 – 3.5 mg/kg
Metals Suite (Al, Fe)	860 - 1750 mg/kg
Organotins (DBT, TBT)	0.001 mg/kg
PAHs (DTI 2-6 Ring Aromatics + EPA 16)	1 µg/kg
Total Hydrocarbon Content	100 µg/kg
PCBs (25 Congeners inc. ICES 7)	0.00008 mg/kg
Organochlorine Pesticides	0.0001 mg/kg

4 Discussion of Results

4.1 Introduction

A brief discussion of the encountered ground conditions at the investigated locations follows. All depths referred to are the depth below the seabed, together with the level, referenced to mCD.

A schematic plan of the locations is shown below (*Figure* 5). The five geotechnical locations are aligned along the Fishguard quay wall, with two interspersed environmental locations. The remaining three environmental core locations are positioned further out in the harbour area.

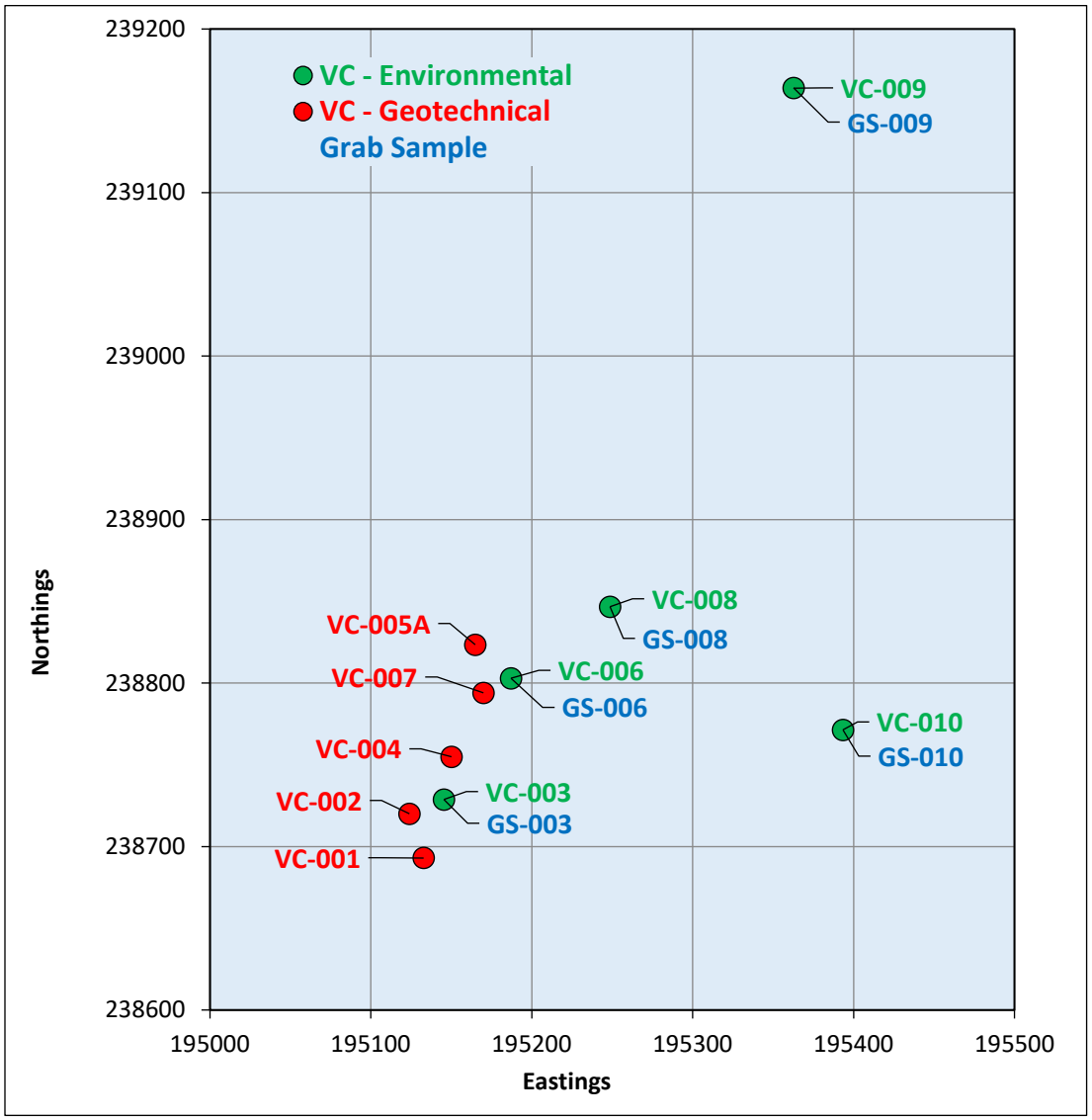


Figure 5 Schematic location plan.

4.2 Locations

Location 001 -geotechnical

At location VC-001 the recovery was 5.20 m. The ground conditions are a very thin seabed veneer of slightly clayey silty fine to medium SAND to 0.35 m depth (-1.00 mCD). A thin layer extends to 0.89 m depth (-1.54 mCD), composed of clayey very silty fine SAND. From 0.89 m to 3.35 m depth (-4.00 mCD) a thick granular stratum is slightly clayey very silty fine SAND with occasional fine to medium gravel size shell fragments. This layer also contains some coarse coal gravel fragments, indicating it has been possibly re-worked. A basal layer to 5.20 m depth (-5.85 mCD) is slightly gravelly silty fine to coarse SAND. The gravel component is largely fine to medium shell fragments, with rare lithic fragments of limestone.

PSD data from this location are shown below (*Figure 6*). The sand contents range from 66 to 93 %, with high silt contents in the fine grained granular material from the seabed level to 3.35 m depth of 11 to 28 %. Clay contents are up to 6 %.

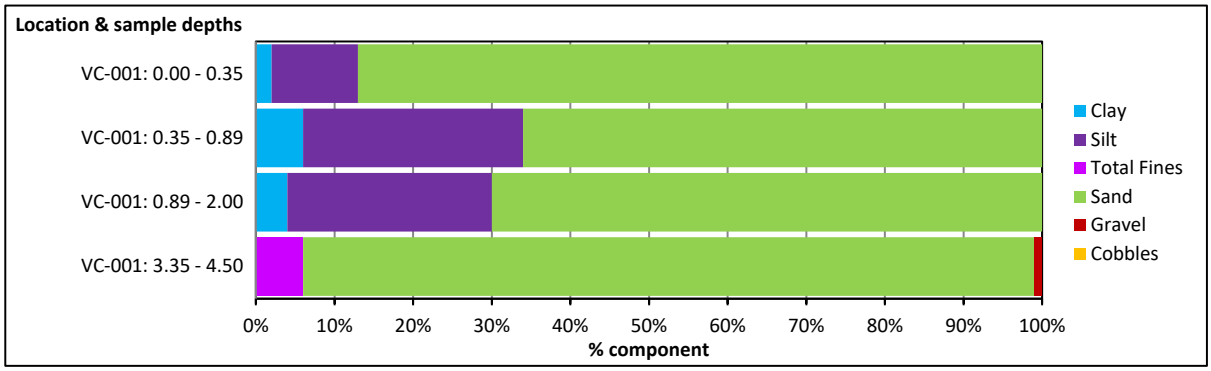


Figure 6 PSD data for location VC-001.

Two shearbox tests were carried out on granular material at this location, at depths of 0.89 to 2.00 m and at 4.50 to 5.20 m. Peak friction angles were 34.5 to 35.0°, with residual friction angles of 32.5 to 33.0°.

Moisture contents in the tested material are 35 to 37 %, with bulk and dry densities in the ranges 1.76 to 1.89 Mg/m^3 and 1.31 to 1.39 Mg/m^3, respectively.

Location 002 - geotechnical

Location VC-002 is separated from location VC-001 by approximately 28.5 m. At location VC-002 the recovery was 5.22 m. The ground conditions are entirely granular. A seabed veneer of silty fine to medium SAND extends to 0.60 m depth (-0.87 mCD), noted as slightly clayey silty fine SAND below 0.26 m. From 0.60 m to 0.91 m depth (-1.18 mCD) there is a thin layer of silty very gravelly fine to coarse SAND with the gravel content a mix of fine to medium shelf fragments, together with fine to coarse lithic fragments, with coal and limestone noted, indicating some re-working.

From 0.91 to 3.35 m depth (-3.62 mCD) there is a thick layer of slightly silty fine SAND. At 3.35 to 4.92 m depth (-5.19 m CD), the SAND becomes slightly silty gravelly fine to coarse, with a mix of fine to medium shell fragments and fine to coarse lithic fragments, predominantly grey quartzite. A basal layer to 5.22 m depth (-5.49 mCD) is composed of slightly clayey silty gravelly fine to coarse SAND. The gravel is a mix of fine to coarse shell fragments and fine to coarse lithic fragments, predominantly dark grey limestone.

PSD data from this location are shown below (*Figure 7*). The sand contents range from 53 to 96 %, with silt contents decreasing with increasing depth, from 20 to 4 %. Gravel contents in two strata are 38 % and 8 %.

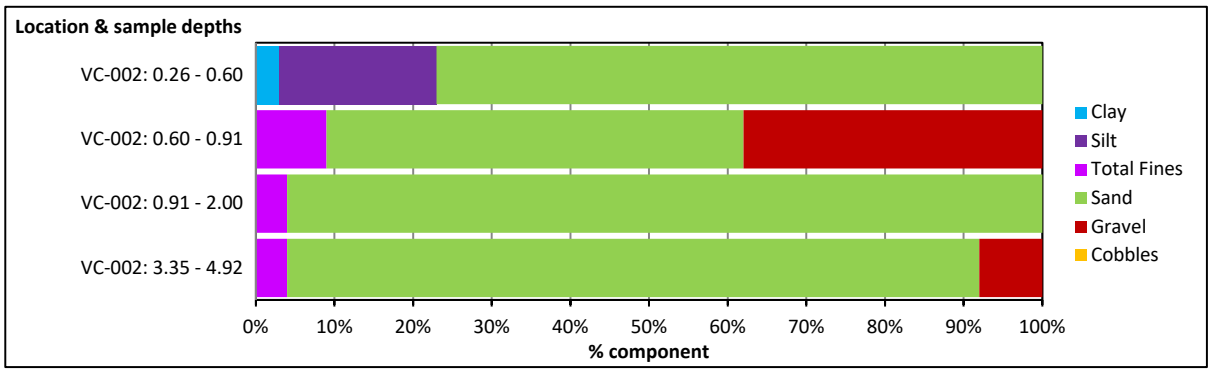


Figure 7 PSD data for location VC-002.

Two shearbox tests were carried out on granular material at this location, at depths of 2.00 to 3.35 m and at 4.92 to 5.22 m. Peak friction angles were 35.5 to 38.5°, with residual friction angles of 33.5 to 35.5°.

Moisture contents in the tested material are 25 to 37 %, with bulk and dry densities in the ranges 1.73 to 1.95 Mg/m^3 and 1.30 to 1.56 Mg/m^3, respectively.

Location 003 - environmental

Location VC-003 is separated from location VC-002 by approximately 23.1 m. At location VC-003 the recovery was 4.10 m. The ground conditions are rather mixed. A very thin seabed veneer of silty fine to medium SAND extends to 0.16 m depth (-0.70 mCD). From 0.16 m to 1.35 m depth (-1.89 mCD), the material is clayey very silty fine to medium SAND with occasional subrounded fine to medium gravel size pockets of black silt. From 1.35 m to 2.11 m depth (-2.65 mCD) there is a layer of slightly clayey silty very sandy fine to coarse GRAVEL. The gravel content is of various lithologies, predominantly coal. A thin cohesive layer extends from 2.11 m to 2.35 m depth (-2.89 mCD) described as very soft slightly sandy silty CLAY, again with some coal fragments. From 2.35 m to 3.06 m depth (-3.60 mCD) is a thick granular layer of slightly clayey silty gravelly fine to coarse SAND. The gravel content is a mix of fine to medium shell fragments and fine to medium coal. A COBBLE of coal is noted at 2.36 m. The basal material in the recovered material, from 3.06 m to 4.10 m depth (-4.64 mCD) is slightly gravelly silty fine to medium SAND, with the gravel content being entirely fine to medium shell fragments.

PSD data from this location are shown below, including data from co-located GS-003 at seabed level (*Figure 8*). The sand contents are variable, ranging 34 % in the GRAVEL stratum, to 91 % at 3.90 to 4.00 m depth. Silt contents are reasonable, from 7 to 14 % with a higher value of 44 % in the stratum from 0.16 to 1.35 m depth, which has a clay content of 9 %. Gravel contents are generally low where present, <7 %, with a higher value of 54 % in the GRAVEL stratum.

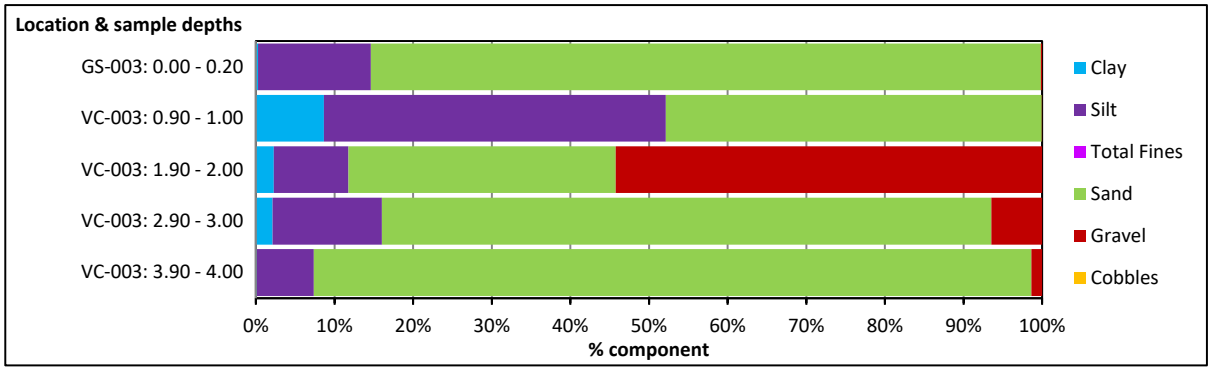


Figure 8 PSD data for location VC-003.

Location 004 - geotechnical

Location VC-004 is separated from location VC-003 by approximately 26.7 m. At location VC-004 the recovery was 4.91 m. The ground conditions comprise a very thin seabed veneer to 0.19 m depth (-1.12 mCD) of silty fine to medium SAND. Below 0.19 m, to the base of the recovery at 4.91 m depth (-5.84 mCD) the material is cohesive. A thick layer of extremely low strength very soft slightly gravelly sandy silty CLAY extends to 3.88 m depth (-4.81 mCD). The gravel content is a mix of fine to medium shell fragments and fine to medium lithic fragments, predominantly coal. The CLAY has very closely to medium spaced subhorizontal thick laminae to thin beds of silty fine to coarse sand. From 3.88 m depth to the base of the recovery at 4.91 m (-5.84 mCD) the CLAY is described as extremely low strength very soft sandy silty organic CLAY. There are fine to coarse gravel size fragments of fibrous organic debris. Peak shear strength values, determined from TV and LV tests range from 3 to 6 kPa in the upper CLAY, with a value of 9 kPa in the basal CLAY.

PSD data from this location are shown below (*Figure 9*). All the tested material is from cohesive strata, with silt contents ranging from 23 to 49 %, with clay contents of 4 to 14 %. The test result with only 4 % clay, from 2.00 to 3.00 m, represents the presence of thin beds of silty sand within the CLAY stratum. The sand contents are variable, ranging 36 to 73 %.

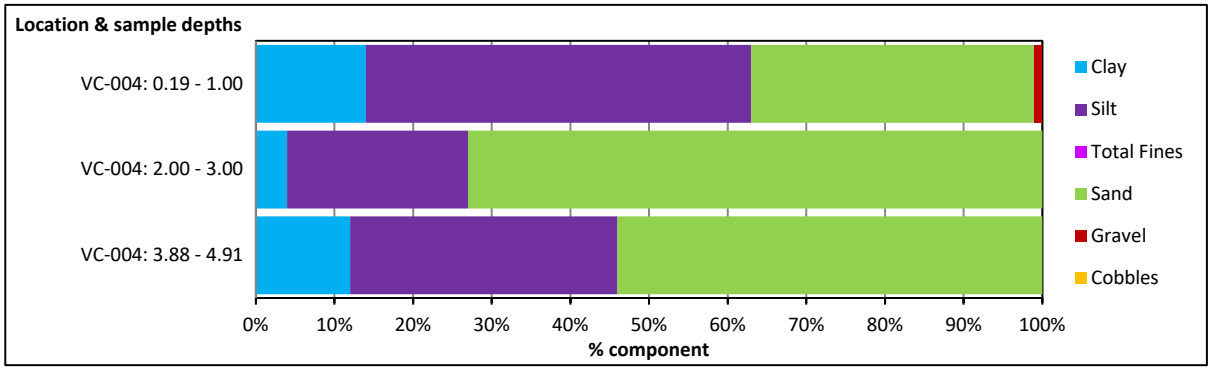


Figure 9 PSD data for location VC-004.

Moisture contents in the tested material are 31 to 50 %, with bulk and dry densities in the ranges 1.75 to 1.95 Mg/m^3 and 1.17 to 1.49 Mg/m^3, respectively.

Location 007 - geotechnical

Location VC-007 is separated from location VC-004 by approximately 43.7 m. At location VC-007 the recovery was 4.58 m. The ground conditions comprise a thick seabed cohesive layer to 1.94 m depth (-4.70 mCD) of extremely low strength very soft slightly sandy silty CLAY. The CLAY contains closely to medium spaced subhorizontal thin to thick laminae of black silt. Peak shear strength values, determined from TV and LV tests range from 4 to 6 kPa, with a single low value of 1 kPa at 1.85 to 2.00 m depth possibly representing some sample disturbance. From 1.94 m to 2.76 m depth (-5.52 mCD) the material is clayey gravelly very silty fine to coarse SAND, with the gravel content being fine to coarse of various lithologies, predominantly coal. From 2.76 m to 3.05 m depth (-5.81 m CD) there is a distinct granular layer described as slightly clayey silty very sandy fine to coarse GRAVEL. The gravel content is of various lithologies, including coal and white porcelain. This indicates this layer and the material above is possibly re-worked and re-mobilised due to the locations closeness to the berthing area for the marine ferry traffic. A basal layer at 3.05 to 4.58 m depth (-7.34 mCD) is slightly silty slightly gravelly fine to coarse SAND, with the gravel content being fine to medium of various lithologies and fine to medium shell fragments.

PSD data from this location are shown below (*Figure 10*). The seabed CLAY layer has silt and clay contents of 55 % and 14 %, respectively. The sand content is low, at 31 %. The remainder of the tested material is from granular strata with sand contents ranging from 39 to 93 %, and gravel contents from 4 to 49 %. Total fines contents (silt & clay) decrease with increasing depth.

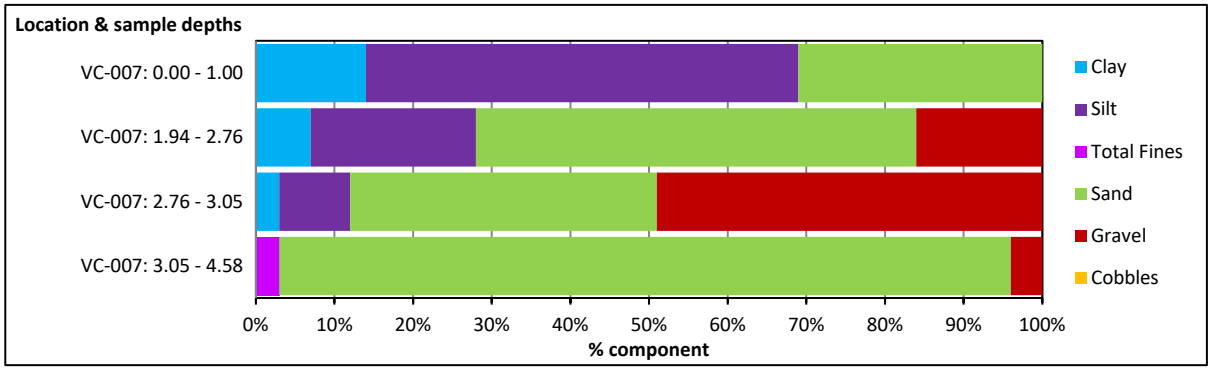


Figure 10 PSD data for location VC-007.

Moisture contents in the tested material are 99 to 101 % in the CLAY and 34 % in the basal SAND. Bulk and dry densities in the CLAY are 1.48 to 1.54 Mg/m^3 and 0.75 to 0.77 Mg/m^3, respectively. In the SAND the bulk and dry densities are 1.76 Mg/m^3 and 1.31 Mg/m^3, respectively.

Location 006 - environmental

Location VC-006 is separated from location VC-007 by approximately 19.4 m. At location VC-006 the recovery was 5.10 m. Cohesive material extends to 3.33 m depth (-8.24 mCD). A thin seabed veneer of very soft slightly clayey sandy SILT, with occasional fine to medium gravel size shell fragments extends to 0.68 m depth (-5.59 mCD). From 0.68 m to 2.56 m depth (-7.47 mCD) a thick layer of very soft to soft slightly sandy silty CLAY is present. The CLAY has closely to medium spaced subhorizontal thick laminae to very thin beds of dark grey silt with frequent fragments of black fibrous organic debris. A thin layer of very soft slightly sandy slightly gravelly silty CLAY is seen at 2.56 m to 2.90 m depth (-7.81 mCD). The gravel content is fine to coarse of various lithologies, predominantly coal. From 2.90 m to 3.33 m depth (-8.24 mCD) is a soft slightly gravelly sandy silty CLAY with gravel being fine shell fragments. Granular material is present below the CLAY. From 3.33 m to 3.56 m depth (-8.47 mCD) a thin layer of silty gravelly fine to coarse SAND is present. The gravel content is a mix of fine to medium shell fragments and fine to coarse dark grey limestone. From 3.56 m to 4.25 m depth (-9.16 mCD), the SAND is slightly silty slightly gravelly fine to medium, with the gravel content being entirely fine to medium of various lithologies. The basal material to 5.10 m depth (-10.01 mCD) is a silty fine to medium SAND.

PSD data from this location are shown below, including data from co-located GS-006 at seabed level (*Figure 11*). In the tested cohesive strata, the silt contents range from 45 to 67 %, with clay contents of 6 to 11 %. The lowest value of 6 % is from the seabed SILT stratum. Sand contents in cohesive strata are 22 to 42 %. In the basal SAND stratum, the sand content is 93 % with 5 % silt. Gravel contents are <2 %.

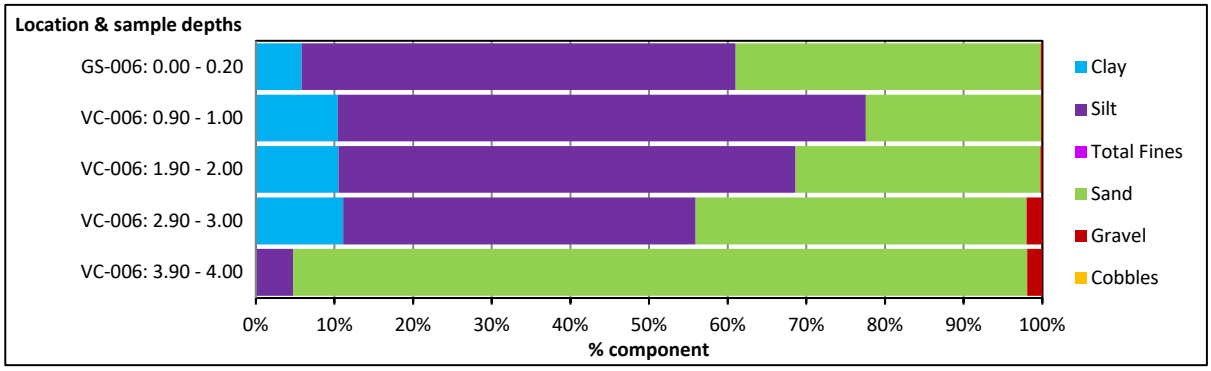


Figure 11 PSD data for location VC-006.

Location 005 -geotechnical

Location VC-005 is the final geotechnical location and is separated from location VC-006 by approximately 30.4 m. Two VC re-attempts were required, with low recoveries of 1.52 and 1.65 m possibly due to the presence of COBBLES. The accepted VC attempt was VC-005A with 3.80 m recovery. The ground conditions comprise a very thin seabed veneer to 0.12 m depth (-6.15 mCD) of silty fine to medium SAND. From 0.12 m to 2.05 m depth (-8.08 mCD) there is a thick layer of extremely low strength very soft slightly gravelly sandy silty CLAY. The gravel content is fine to medium shell fragments and fine to medium lithic fragments of black coal. The CLAY contains very closely to closely spaced subhorizontal thick laminae to very thin beds of dark grey silty fine to coarse sand. Shear strength values, determined from TV tests are 6 to 7 kPa. From 2.05 m to 2.55 m depth (-8.58 m CD) there is distinct granular layer described as slightly silty very sandy fine to coarse GRAVEL. The gravel content is a mix of fine to medium shell fragments and fine to coarse of various lithologies and white porcelain. From 2.55 m to 3.08 m depth (-9.11 mCD) there is a slightly gravelly silty fine to medium SAND, with the gravel content being fine to medium of various lithologies and glass. Again, this indicates that material is possibly re-worked and re-mobilised. The basal material, from 3.08 m to 3.80 m depth (-9.83 mCD) is a slightly silty very sandy fine to coarse GRAVEL, with the gravel content being of various lithologies with subordinate fine to medium shell fragments.

PSD data from this location are shown below (*Figure 12*). The thick upper CLAY stratum has silt and clay contents of 39 % and 12 %, respectively, with a sand content of 47 %. The granular layers have sand contents of 37 to 90 %, with gravel contents of 4 to 57 %. Total fines contents are low, at <6 %.

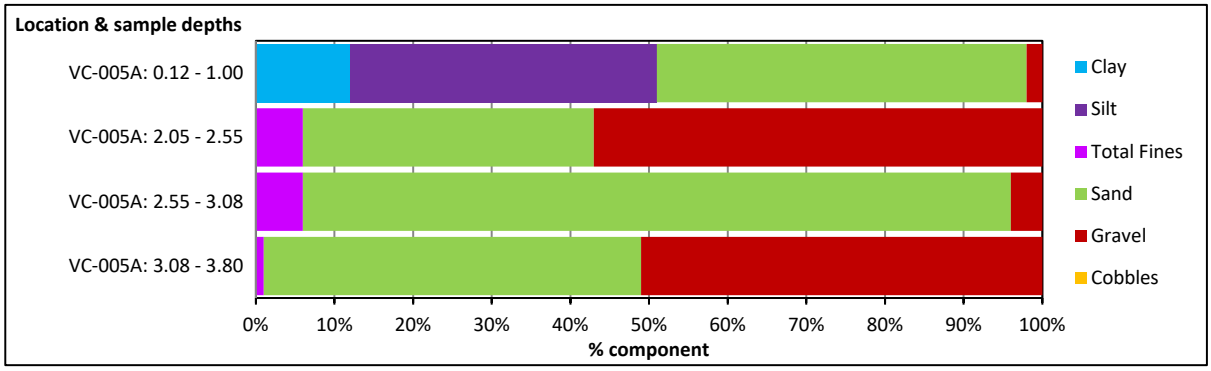


Figure 12 PSD data for location VC-005A.

A single shearbox test was carried out on granular material at this location, at a depth of 3.08 to 3.80 m. The peak friction angle was 39.0°, with a residual friction angle of 36.0°.

Moisture contents in the tested material are 68 to 89 % in the CLAY and 37 % in the basal SAND. Bulk and dry densities in the CLAY are 1.55 to 1.59 Mg/m^3 and 0.82 to 0.95 Mg/m^3, respectively. In the SAND the bulk and dry densities are 1.76 Mg/m^3 and 1.28 Mg/m^3, respectively.

A schematic profile of the geotechnical locations, and two interspersed environmental locations, close to the Fishguard quay wall, relative to the datum mCD, is shown below (*Figure 13*).

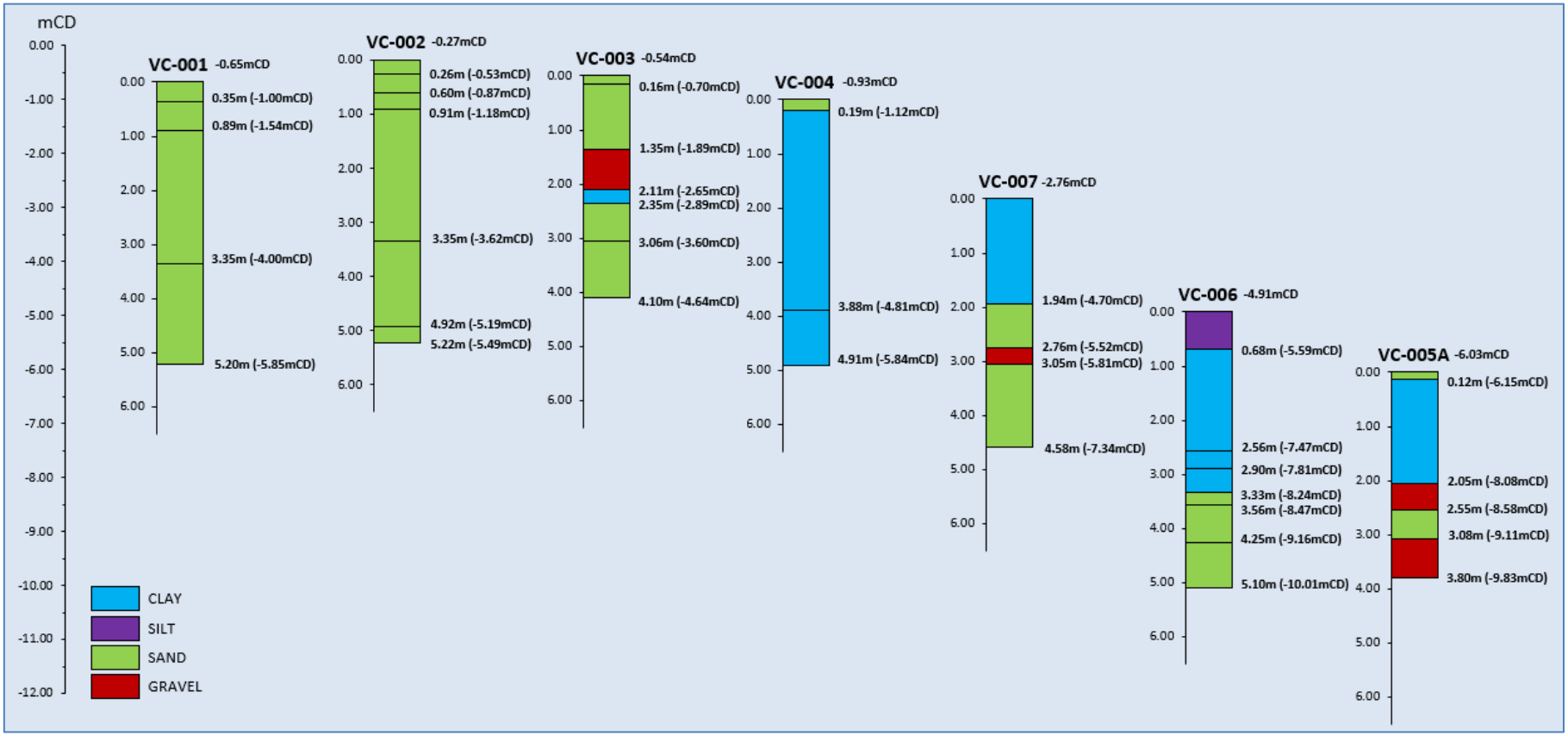


Figure 13 Schematic profile of locations along Fishguard quay wall.

Location 008 - environmental

Location VC-008 is located approximately 75.5 m to the north west of location VC-006. At location VC-008 the recovery was 5.40 m. Cohesive material extends to 2.52 m depth (-8.94 mCD). A thick layer of very soft slightly gravelly sandy silty CLAY extends to 1.53 m depth (-7.95 mCD). The CLAY has closely to medium spaced subhorizontal thick laminae to very thin beds of black and dark grey silt. The gravel content is entirely fine to medium shell fragments. From 1.53 m to 2.52 m depth (-8.94 mCD) the material is soft slightly gravelly sandy silty CLAY. The gravel content is fine shell fragments. From 2.52 m to the base of the recovery at 5.40 m depth (-11.82 mCD), the material is granular described as silty fine to medium SAND, locally slightly clayey, with occasional fine to medium gravel size pockets of black silt.

PSD data from this location are shown below, including data from co-located GS-008 at seabed level (*Figure 14*). In the tested cohesive strata, the silt contents range from 39 to 48 %, with clay contents of 7 to 19. Sand contents in cohesive strata are 41 to 46 %. In the basal SAND strata, the sand contents are 83 to 98 % with 2 to 13 % silt content. Gravel contents are low throughout at <3 %.

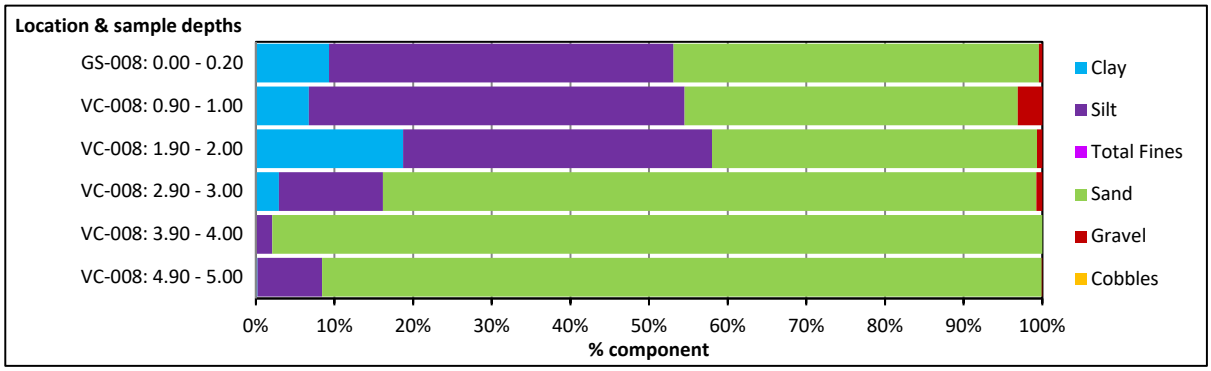


Figure 14 PSD data for location VC-008.

Location 009 - environmental

Location VC-009 is located approximately 337.2 m to the north west of location VC-008. At location VC-009 the recovery was 5.20 m. Cohesive material extends to 1.37 m depth (-8.94 mCD). A thin seabed layer of very soft slightly clayey slightly sandy SILT extends to 0.58 m depth (-5.63 mCD). From 0.58 m to 1.37 m depth (-6.42 mCD) the CLAY is described as very soft to soft organic slightly clayey slightly sandy SILT with occasional medium to coarse gravel size fragments of black wood and fibrous organic material. From 1.37 m to 2.93 m depth (-7.98 mCD) the material is slightly clayey to clayey slightly gravelly to gravelly silty to very silty fine to coarse SAND with occasional fine to medium gravel size shell fragments. CLAY is present from 2.93 m to 3.96 m depth (-9.01 mCD), described as very soft to soft slightly gravelly sandy silty CLAY. The gravel content is a mix of fine shell fragments and fine to coarse lithic fragments, predominantly limestone. From 3.96 m to 4.60 m depth (-9.65 mCD) the material is slightly gravelly clayey silty fine to medium SAND. The gravel content is a mix of fine shell

fragments and fine to medium lithic fragments, predominantly limestone. The basal material in the recovered core, from 4.60 m to 5.20 m depth (-10.25 mCD) is very silty fine to medium SAND.

PSD data from this location are shown below, including data from co-located GS-009 at seabed level (*Figure 15*). In the tested cohesive strata, the silt contents are high and range from 65 to 69 %, with clay contents of 7 to 9. Sand contents in cohesive strata are 22 to 27 %. In the granular stratum, the sand content is 41 % with 37 % silt and 13 % clay. The gravel content is 9 %. In the CLAY stratum at 2.93 to 3.96 m depth, the clay content is 19 % with 37 % silt, and 43 % sand.

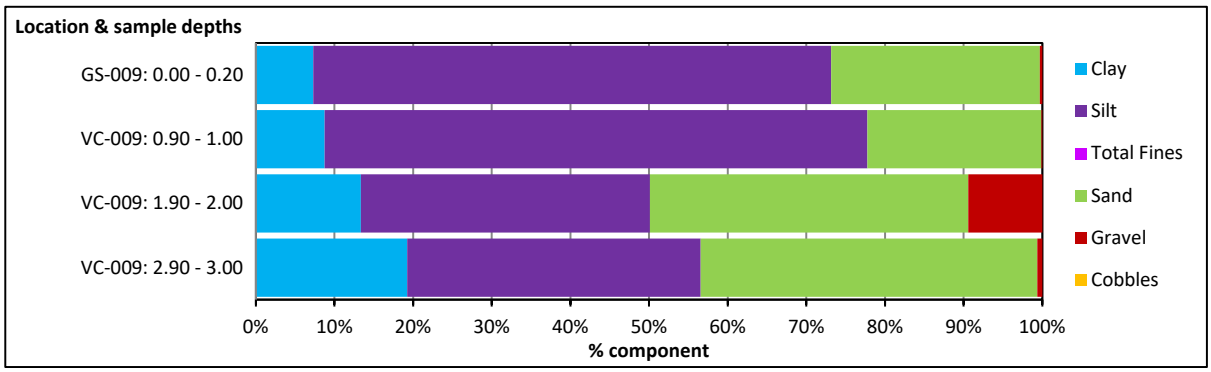


Figure 15 PSD data for location VC-009.

Location 010 - environmental

Location VC-010 is located approximately 163.1 m to the east south east of location VC-008. At location VC-010 the recovery was 5.20 m. Cohesive material extends to 1.76 m depth (-7.40 mCD), described as very soft to soft slightly sandy silty CLAY. The CLAY has closely to medium spaced subhorizontal thick laminae and coarse gravel size pockets of black silt, with fibrous organic debris. From 1.76 m to 2.16 m depth (-7.80 mCD) there is a thin layer of slightly gravelly clayey silty fine to medium SAND. The gravel content is largely fine shell fragments with subordinate fine to coarse lithic fragments of limestone. From 2.16 m to 3.51 m depth (-9.15 mCD) cohesive material is present, described as very soft to soft slightly sandy silty CLAY. The basal material in the recovered core, from 3.51 m to 5.20 m (-10.84 mCD) is silty fine to medium SAND.

PSD data from this location are shown below, including data from co-located GS-010 at seabed level (*Figure 16*). In the tested cohesive strata, the silt contents are high and range from 60 to 65 %, with clay contents of 9 to 29 Sand contents in cohesive strata are 13 to 26 %. In the granular stratum at 1.76 to 2.16 m depth, the sand content is 57 % with 33 % silt and 10 % clay.

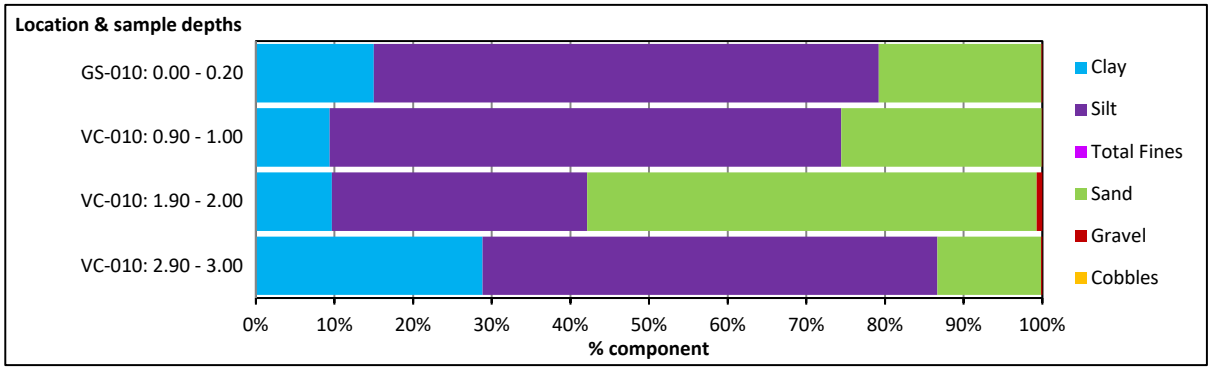


Figure 16 PSD data for location VC-010.

A schematic profile of these three environmental locations, albeit spatially distanced from each other, relative to the datum mCD, is shown below (*Figure 17*).

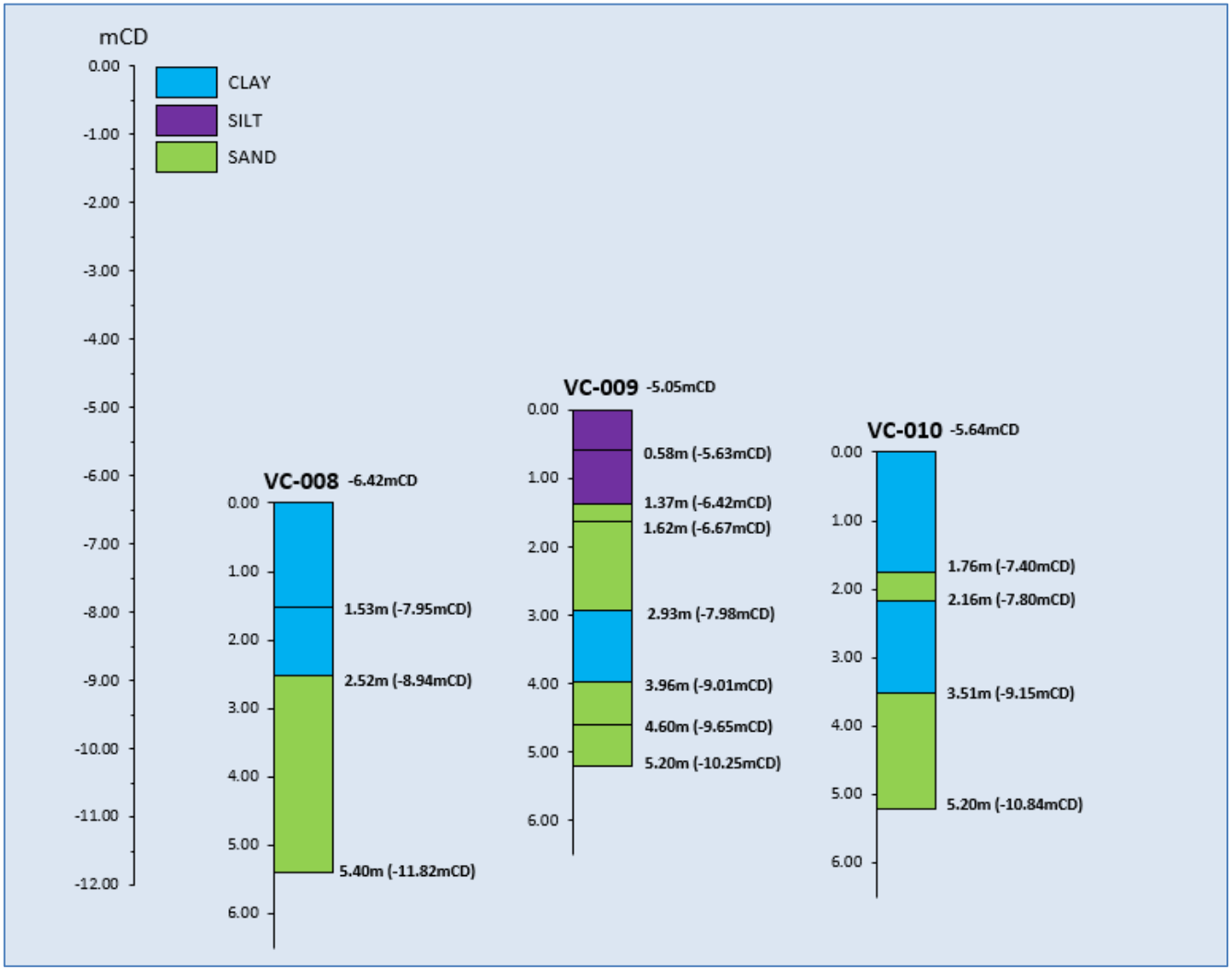


Figure 17 Schematic profiles of environmental cores.

5 References

BS 1377 (1990) Methods of test for soils for civil engineering purposes. British Standards Institution.

BS EN 1997-2 (2007) Eurocode 7 - Geotechnical design - Part 2 Ground investigation and testing. British Standards Institution.

BS EN ISO 14688-1 (2018) Geotechnical investigation and testing - Identification and classification of soil - Part 1 Identification and description. British Standards Institution.

BS EN ISO 14688-2 (2018) Geotechnical investigation and testing - Identification and classification of soil - Part 2 Principles for a classification. British Standards Institution.

BS EN ISO 17892 Geotechnical investigation and testing – Laboratory testing of soil. British Standards Institution.

BS EN ISO 19901-8 (2015) Petroleum and natural gas industries - Specific requirements for offshore structures - Part 8: Marine soil investigations. British Standards Institution.

Appendix A Exploratory Hole Records

Description	Pages included	Page No.
Core Records		
Table VC Summary – Summary of Cores	1	34
Table Core Key – Key to Core Records	3	35 – 37
Core Logs	20	38 - 57
Grab Sample Records		
Table GS Summary – Summary of Grab Samples	1	58
Grab Sample Logs	5	59 - 63

Summary of Cores

Survey Area	Core ID	Assessed Penetration (m)	Core Recovery (m)	Date	Eastings Datum: WGS 84 UTM Zone 30 N Vertical Datum: mCD	Northings Datum: WGS 84 UTM Zone 30 N Vertical Datum: mCD	Seabed Level Datum: WGS 84 UTM Zone 30 N Vertical Datum: mCD	Vessel	Remarks
Fishguard Harbour	VC-001	6.00	5.20	2025-03-15	195132.86	238693.14	-0.65	Willendeavour	Geotechnical core
Fishguard Harbour	VC-002	6.00	5.22	2025-03-15	195123.92	238720.16	-0.27	Willendeavour	Geotechnical core
Fishguard Harbour	VC-003	6.00	4.10	2025-03-16	195145.33	238728.72	-0.54	Willendeavour	Environmental core
Fishguard Harbour	VC-004	6.00	4.91	2025-03-15	195150.14	238754.94	-0.93	Willendeavour	Geotechnical core
Fishguard Harbour	VC-005A	4.70	3.80	2025-03-15	195164.78	238823.52	-6.03	Willendeavour	Geotechnical core
Fishguard Harbour	VC-006	6.00	5.10	2025-03-16	195187.08	238802.94	-4.91	Willendeavour	Environmental core
Fishguard Harbour	VC-007	4.90	4.58	2025-03-14	195169.88	238793.98	-2.76	Willendeavour	Geotechnical core
Fishguard Harbour	VC-008	6.00	5.40	2025-03-16	195248.61	238846.66	-6.42	Willendeavour	Environmental core
Fishguard Harbour	VC-009	6.00	5.20	2025-03-16	195362.71	239163.98	-5.05	Willendeavour	Environmental core
Fishguard Harbour	VC-010	6.00	5.20	2025-03-16	195393.27	238771.44	-5.64	Willendeavour	Environmental core

Key to Core Records

IN SITU SITE INVESTIGATION

Plot symbols:

Index tests:

- Moisture Content (%)
- Liquid Limit (%)
- Plastic Limit (%)
- Dry Density (Mg/m^3)
- Bulk Density (Mg/m^3)
- Min. Density (Mg/m^3)
- Max. Density (Mg/m^3)
- Thermal Resistivity (K m/ W)
- Thermal Resistivity (carried out offshore, K m/ W)
- Electrical Resistivity (ohm m)

Shear strength tests:

- Torvane shear strength (kPa)
- Torvane shear strength (carried out offshore, kPa)
- Lab Vane shear strength, peak (kPa)
- Lab Vane shear strength, remould (kPa)
- Pocket Penetrometer (kPa)
- Pocket Penetrometer (carried out offshore, kPa)
- Triaxial shear strength (kPa)

Notes:

1 Soils are described in accordance with BS EN ISO 14688-1 (2018) and 14688-2 (2018).

2 For fine soils, consistency determined during description is reported for those strata where undisturbed samples are available. Where the logger considers that the sample may not be representative of the condition in situ, for whatever reason, the reported consistency is given in brackets. The reliability of the sample is indicated by Probably or Possibly as appropriate. Hence (Probably firm) indicates the logger is reasonably confident of the assessment, but (Possibly firm) means less certainty. Where the samples available are too disturbed to allow a reasonable assessment of the in situ condition, no consistency is given.

3 Evidence of the occurrence of very coarse particles (cobbles and boulders) is presented on the logs. However, because of their size in relation to the exploratory hole diameter, these records may not be fully representative of their size and/or frequency in the ground.

4 Samples shown on the logs are those taken during logging for laboratory testing and sample retention.

5 Indicative carbonate content tests carried out using 10% hydrochloric acid (HCl). Descriptors as below:
Non-calcareous - the addition of HCl produces no effervescence
Slightly calcareous - the addition of HCl produces weak or sporadic effervescence
Calcareous - the addition of HCl produces clear, but not sustained effervescence
Highly calcareous - the addition of HCl produces strong and sustained effervescence

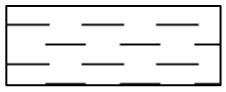
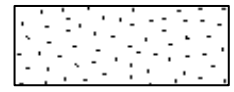
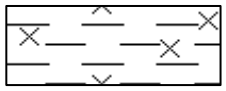
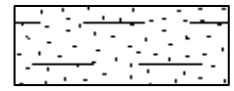
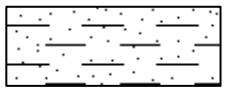
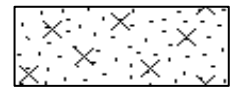
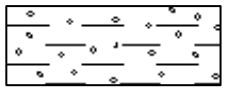
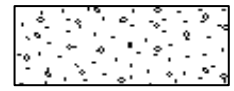
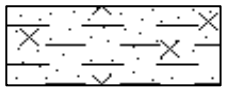
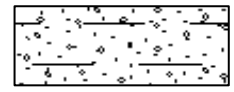
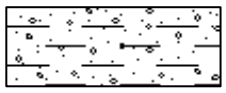
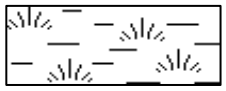
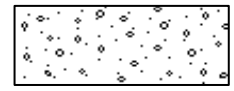
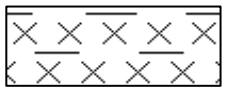
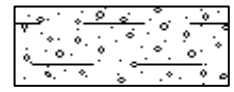
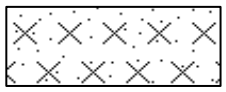
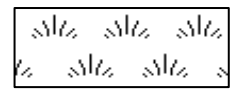
6 Unless otherwise indicated, the black & white scale bar shown on the photographs of recovered material is 1.00m in length, with each separate block being 100mm in length.

Client	Project	Fishguard Linkspan	Table
Stena Line	Project No.	POR-00886	Core Key
	Carried out for	Stena Line	

Key to Core Records

IN SITU SITE INVESTIGATION

Common strata legend symbols (*ags code in italics*):

	*201* **CLAY**		*401* **SAND**
	*202* **CLAY with silt**		*402* **Clayey SAND**
	*203* **Sandy CLAY**		*403* **Silty SAND**
	*204* **Gravelly CLAY**		*404* **Gravelly SAND**
	*207* **Silty sandy CLAY**		*410* **Clayey gravelly SAND**
	*220* **Sandy gravelly CLAY**		*412* **Silty gravelly SAND**
	*229* **Organic CLAY**		*504* **Sandy GRAVEL**
	*302* **Clay/Silt**		*509* **Clayey sandy GRAVEL**
	*303* **Sandy SILT**		*520* **Silty sandy GRAVEL**
	*310* **Sandy gravelly SILT**		*601* **PEAT**

Sample & test types:

B	**Bulk disturbed**
D	**Disturbed tub sample**
M	**Sample for moisture content determination (MC)**
TV	**Torvane**
TVO	**Torvane (carried out offshore)**
TRM	**Thermal resistivity with moisture content**
TRO	**Thermal resistivity with moisture content (carried out offshore)**
ER	**Electrical resistivity**
ES	**Environmental sample**
U	**Undisturbed tube sample for UU test**
LV	**Lab vane**
PP	**Pocket penetrometer**
PPO	**Pocket penetrometer (carried out offshore)**
AT	**Atterberg Limits to derive Plastic and Liquid Limits**

Client Stena Line	**Project**	**Fishguard Linkspan**	**Table** **Core Key**
	Project No.	**POR-00886**	
	Carried out for	**Stena Line**	

Key to Core Records

Colour codes after Norbury (2016) *Soil and Rock Description in Engineering Practice, 2nd Ed.*
(advocated in BS 5930:2015+A1:2020)

Black

Dark Grey

Grey

Light Grey

White

Green

Greenish

Bluish Grey

Blue

Dark Brown

Brown

Light Brown

Greyish

Brownish

Pink

Reddish

Orangish

Yellowish

Cream

Purple

Red

Orange

Yellow

Client	Project	Fishguard Linkspan	Table
Stena Line	Project No.	POR-00886	Core Key
	Carried out for	Stena Line	

GeoForce TECHNICAL SERVICES LTD

Fishguard Linkspan

IN SITU SITE INVESTIGATION

Depth (m) (Thickness)	Level (mCD)	Sediment Description	Legend	Samples & Type (m)
0.00 (0.35)	-0.65	Dark brownish grey slightly clayey silty fine to medium SAND. Occasional angular to subangular fine gravel size shell fragments. Non-calcareous.		0.00 - 0.35 D
0.35 (0.54)	-1.00	Dark grey clayey very silty fine SAND. Non-calcareous.		0.35 - 0.89 B 0.50 - 0.60 M
0.89 (2.46)	-1.54	Dark grey and brownish grey slightly clayey very silty fine SAND. Occasional angular to subangular fine to medium gravel size shell fragments. Non-calcareous.		0.89 - 2.00 B 1.50 - 1.60 M 2.00 - 3.35 B
		At 1.79 - 1.86m Extremely closely spaced subhorizontal thin laminae of dark grey silt.		
		At 2.26 - 2.30m 1 no. subangular coarse gravel of black coal.		
3.35 (1.85)	-4.00	Dark grey and brownish grey slightly gravelly silty fine to coarse SAND. Gravel is 100% angular to subangular fine shell fragments. Non-calcareous.		3.35 B 3.35 - 4.50 B 3.50 - 3.60 M 4.50 - 5.20 B
		At 3.82 - 3.86m 1 no. subrounded coarse gravel of dark grey limestone.		
		At 3.87 - 4.00m 1 no. thin bed of brownish grey slightly gravelly fine to coarse sand. Gravel is 100% angular to subangular fine shell fragments.		
		At 4.17 - 4.31m 1 no. thin bed of brownish grey slightly gravelly fine to coarse sand. Gravel is 100% angular to subangular fine shell fragments.		
	-5.85	Core recovery ends at 5.20m		

Recovered Material



0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Project ID:	POR-00886	**Location Test Date:**	15/03/2025	**Core Location:**	**VC-001**
Vessel:	Willendeavour	**Location Coordinates:**	E 195132.86 N 238693.14	**Depth Logged:**	**5.20m**
Client:	Stena Line	**Seabed Level:**	-0.65 mCD	**Project Area:**	Fishguard Harbour

Equipment used: Vibrocorer c/w 100mm OD PVC liner. Plain shoe with basket core catcher.
Geodetic parameters: WGS 84 UTM Zone 30 N
Assessed penetration: 6.00 m

Core Log Status: FINAL **Checked By:** RC

VC-001

GeoForce TECHNICAL SERVICES LTD

Fishguard Linkspan

IN SITU SITE INVESTIGATION

Depth (m) (Thickness)	Level (mCD)	Sediment Description	Legend	Samples & Type (m)	Particle Size Distribution (%) Clay	Silt	Fines	Sand	Gravel
0.00 (0.35)	-0.65	Dark brownish grey slightly clayey silty fine to medium SAND. Occasional angular to subangular fine gravel size shell fragments. Non-calcareous.		0.00 - 0.35 D	2.0	11.0	13.0	87.0	
0.35 (0.54)	-1.00	Dark grey clayey very silty fine SAND. Non-calcareous.		0.35 - 0.89 B 0.50 - 0.60 M	6.0	28.0	34.0	66.0	
0.89 (2.46)	-1.54	Dark grey and brownish grey slightly clayey very silty fine SAND. Occasional angular to subangular fine to medium gravel size shell fragments. Non-calcareous.		0.89 - 2.00 B 1.50 - 1.60 M	4.0	26.0	30.0	70.0	
		At 1.79 - 1.86m Extremely closely spaced subhorizontal thin laminae of dark grey silt.		2.00 - 3.35 B					
		At 2.26 - 2.30m 1 no. subangular coarse gravel of black coal.							
3.35 (1.85)	-4.00	Dark grey and brownish grey slightly gravelly silty fine to coarse SAND. Gravel is 100% angular to subangular fine shell fragments. Non-calcareous.		3.35 B 3.35 - 4.50 B 3.50 - 3.60 M					
		At 3.82 - 3.86m 1 no. subrounded coarse gravel of dark grey limestone.							
		At 3.87 - 4.00m 1 no. thin bed of brownish grey slightly gravelly fine to coarse sand. Gravel is 100% angular to subangular fine shell fragments.							
		At 4.17 - 4.31m 1 no. thin bed of brownish grey slightly gravelly fine to coarse sand. Gravel is 100% angular to subangular fine shell fragments.							
				4.50 - 5.20 B					
	-5.85	Core recovery ends at 5.20m							

MC and AT results (%): 10 20 30 40 50 60 70 80 90 100

Density (Mg/m3): 0.8 1.0 1.2 1.4 1.6 1.8 2.0

Shear Strength (kPa): 2 4 6 8 10 12 14 16 18

0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Project ID:	POR-00886	**Location Test Date:**	15/03/2025	**Core Location:**	**VC-001**
Vessel:	Willendeavour	**Location Coordinates:**	E 195132.86 N 238693.14	**Depth Logged:**	**5.20m**
Client:	Stena Line	**Seabed Level:**	-0.65 mCD	**Project Area:**	Fishguard Harbour

Equipment used: Vibrocorer c/w 100mm OD PVC liner. Plain shoe with basket core catcher.
Geodetic parameters: WGS 84 UTM Zone 30 N
Assessed penetration: 6.00 m

Core Log Status: FINAL **Checked By:** RC

VC-001

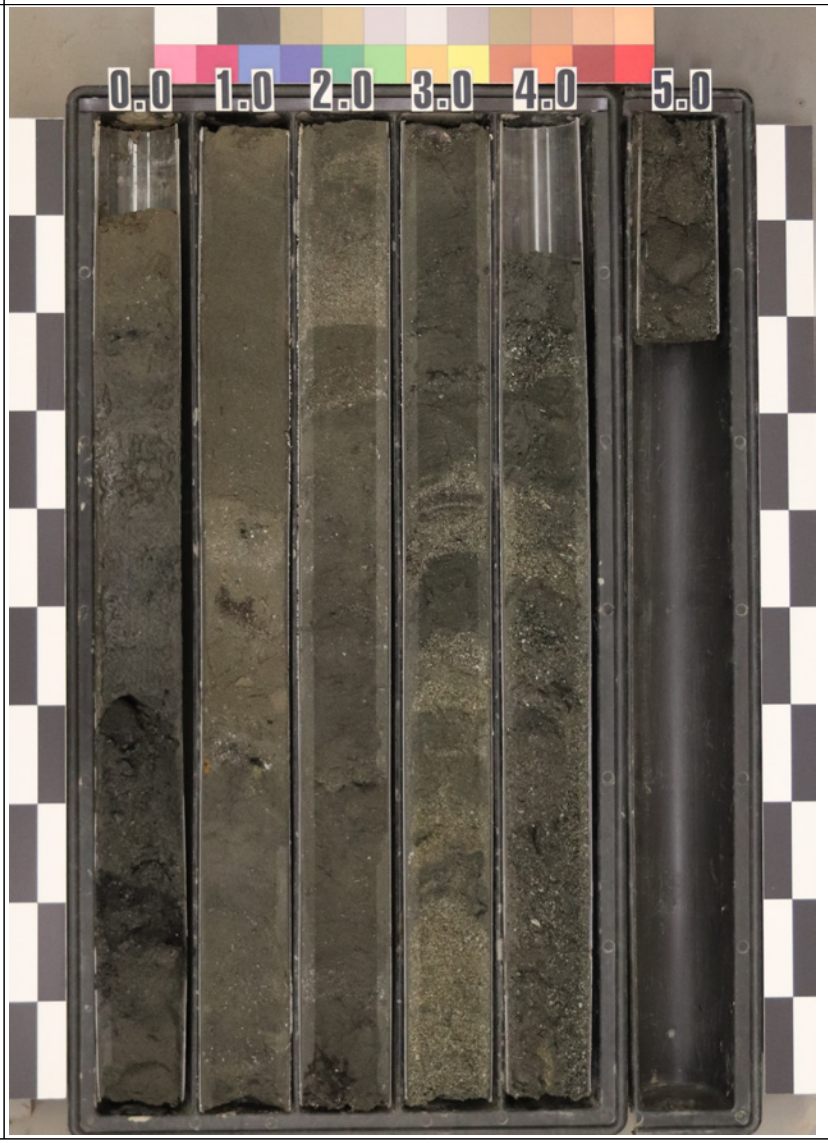
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Fishguard Linkspan

IN SITU SITE INVESTIGATION

Depth (m) (Thickness)	Level (mCD)	Sediment Description	Samples & Type (m)
0.00 (0.26)	-0.27	Brownish grey silty fine to medium SAND. Occasional angular to subangular fine to medium gravel size shell fragments. Non-calcareous.	0.00 - 0.26 B
0.26 (0.34)	-0.53	Dark grey, locally mottled black, slightly clayey silty fine SAND. Non-calcareous.	0.26 - 0.60 B 0.40 - 0.50 M
0.60 (0.31)	-0.87	Dark grey and black silty very gravelly fine to coarse SAND. Gravel is 70% angular to subangular fine to coarse of black coal and 30% angular to subangular fine to medium shell fragments. Slightly calcareous.	0.60 - 0.91 B
0.91 (2.44)	-1.18	Dark grey and brownish grey slightly silty fine SAND. Occasional subangular fine to medium gravel size shell fragments and angular fine to medium gravel of grey quartzite. Slightly calcareous.	0.91 - 2.00 B 1.50 - 1.60 M 2.00 - 3.35 B
3.35 (1.57)	-3.62	Greyish brown slightly silty gravelly fine to coarse SAND. Gravel is 80% angular to subangular fine to medium shell fragments and 20% angular fine to coarse of grey quartzite. Slightly calcareous.	3.35 - 4.92 B 3.60 - 3.70 M
4.92 (0.30)	-5.19	Dark grey slightly clayey silty gravelly fine to coarse SAND. Gravel is 60% angular to subangular fine to coarse shell fragments and 40% subrounded fine to coarse of dark grey limestone. Calcareous.	4.92 - 5.22 B 5.10 - 5.20 M
	-5.49	Core recovery ends at 5.22m	

Recovered Material



0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Project ID:	POR-00886	**Location Test Date:**	15/03/2025	**Core Location:**	**VC-002**
Vessel:	Willendeavour	**Location Coordinates:**	E 195123.92 N 238720.16	**Depth Logged:**	**5.22m**
Client:	Stena Line	**Seabed Level:**	-0.27 mCD	**Project Area:**	Fishguard Harbour

Equipment used: Vibrocorer c/w 100mm OD PVC liner. Plain shoe with basket core catcher.
Geodetic parameters: WGS 84 UTM Zone 30 N
Assessed penetration: 6.00 m

Core Log Status: FINAL **Checked By:** RC VC-002

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Fishguard Linkspan

IN SITU SITE INVESTIGATION

Depth (m) (Thickness)	Level (mCD)	Sediment Description	Legend	Samples & Type (m)	Particle Size Distribution (%) Clay	Silt	Fines	Sand	Gravel
0.00 (0.26)	-0.27	Brownish grey silty fine to medium SAND. Occasional angular to subangular fine to medium gravel size shell fragments. Non-calcareous.		0.00 - 0.26 B					
0.26 (0.34)	-0.53	Dark grey, locally mottled black, slightly clayey silty fine SAND. Non-calcareous.		0.26 - 0.60 B 0.40 - 0.50 M	3.0	20.0	23.0	77.0	
0.60 (0.31)	-0.87	Dark grey and black silty very gravelly fine to coarse SAND. Gravel is 70% angular to subangular fine to coarse of black coal and 30% angular to subangular fine to medium shell fragments. Slightly calcareous.		0.60 - 0.91 B			9.0	53.0	38.0
0.91 (2.44)	-1.18	Dark grey and brownish grey slightly silty fine SAND. Occasional subangular fine to medium gravel size shell fragments and angular fine to medium gravel of grey quartzite. Slightly calcareous.		0.91 - 2.00 B 1.50 - 1.60 M 2.00 - 3.35 B			4.0	96.0	
3.35 (1.57)	-3.62	Greyish brown slightly silty gravelly fine to coarse SAND. Gravel is 80% angular to subangular fine to medium shell fragments and 20% angular fine to coarse of grey quartzite. Slightly calcareous.		3.35 - 4.92 B 3.60 - 3.70 M			4.0	88.0	8.0
4.92 (0.30)	-5.19	Dark grey slightly clayey silty gravelly fine to coarse SAND. Gravel is 60% angular to subangular fine to coarse shell fragments and 40% subrounded fine to coarse of dark grey limestone. Calcareous.		4.92 - 5.22 B 5.10 - 5.20 M					
	-5.49	Core recovery ends at 5.22m							

MC and AT results (%): 10 20 30 40 50 60 70 80 90 100

Density (Mg/m3): 0.8 1.0 1.2 1.4 1.6 1.8 2.0

Shear Strength (kPa): 2 4 6 8 10 12 14 16 18

0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Project ID:	POR-00886	**Location Test Date:**	15/03/2025	**Core Location:**	**VC-002**
Vessel:	Willendeavour	**Location Coordinates:**	E 195123.92 N 238720.16	**Depth Logged:**	**5.22m**
Client:	Stena Line	**Seabed Level:**	-0.27 mCD	**Project Area:**	Fishguard Harbour

Equipment used: Vibrocorer c/w 100mm OD PVC liner. Plain shoe with basket core catcher.

Geodetic parameters: WGS 84 UTM Zone 30 N

Assessed penetration: 6.00 m

Core Log Status: FINAL **Checked By:** RC

VC-002

Depth (m) (Thickness)	Level (mCD)	Sediment Description	Legend	Samples & Type (m)
0.00	-0.54	Dark brownish grey silty fine to medium SAND. Slightly calcareous.		0.00 - 0.16 D
(0.16)	-0.70			0.16 - 1.35 B
0.16		Dark grey, locally mottled black, clayey very silty fine to medium SAND. Occasional subrounded fine to medium gravel size pockets of black silt. Non-calcareous.		
(1.19)				0.90 - 1.00 ES
1.35	-1.89			1.35 - 2.11 B
(0.76)		Dark grey and black slightly clayey silty very sandy fine to coarse GRAVEL. Sand is fine to coarse. Gravel is 100% angular to subangular fine to coarse of various lithologies, predominantly black coal. Non-calcareous.		
				1.90 - 2.00 ES
2.11	-2.65			2.11 - 2.35 B
(0.24)		Very soft dark grey slightly sandy silty CLAY. Sand is fine to medium. Non-calcareous.		
2.35	-2.89	*At 2.20 - 2.25m 1 no. subangular coarse gravel size pocket of angular black coal.*		2.35 - 3.06 B
(0.71)		Dark brownish grey slightly clayey silty gravelly fine to coarse SAND. Gravel is 60% angular fine to medium shell fragments and 40% angular fine to medium of black coal. Non-calcareous.		
		At 2.36 - 2.45m 1 no. angular cobble of black coal.		
				2.90 - 3.00 ES
3.06	-3.60			3.06 - 4.10 B
(1.04)		Dark grey slightly gravelly silty fine to medium SAND. Gravel is 100% angular fine shell fragments. Calcareous.		
		At 3.43 - 3.46m 1 no. subhorizontal very thin bed of angular fine gravel size shell fragments.		
		At 3.61 - 3.63m 1 no. subhorizontal thick lamination of very soft brownish grey silty clay.		
		At 3.66 - 3.88m 2 no. subangular coarse gravel size pockets of angular fine to medium gravel size shell fragments.		
				3.90 - 4.00 ES
	-4.64	Core recovery ends at 4.10m		

Recovered Material



0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Project ID:	POR-00886	**Location Test Date:**	16/03/2025	**Core Location:**	**VC-003**
Vessel:	Willendeavour	**Location Coordinates:**	E 195145.33 N 238728.72	**Depth Logged:**	**4.10m**
Client:	Stena Line	**Seabed Level:**	-0.54 mCD	**Project Area:**	Fishguard Harbour

Equipment used: Vibrocorer c/w 100mm OD PVC liner. Plain shoe with basket core catcher.
Geodetic parameters: WGS 84 UTM Zone 30 N
Assessed penetration: 6.00 m

Core Log Status: FINAL **Checked By:** RC VC-003

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Fishguard Linkspan

IN SITU SITE INVESTIGATION

Depth (m) (Thickness)	Level (mCD)	Sediment Description	Legend	Samples & Type (m)	Particle Size Distribution (%) Clay	Silt	Fines	Sand	Gravel
0.00 (0.16)	-0.54	Dark brownish grey silty fine to medium SAND. Slightly calcareous.		0.00 - 0.16 D					
0.16 (1.19)	-0.70	Dark grey, locally mottled black, clayey very silty fine to medium SAND. Occasional subrounded fine to medium gravel size pockets of black silt. Non-calcareous.		0.16 - 1.35 B					
				0.90 - 1.00 ES	8.6	43.5	52.1	47.8	0.1
1.35 (0.76)	-1.89	Dark grey and black slightly clayey silty very sandy fine to coarse GRAVEL. Sand is fine to coarse. Gravel is 100% angular to subangular fine to coarse of various lithologies, predominantly black coal. Non-calcareous.		1.35 - 2.11 B					
				1.90 - 2.00 ES	2.3	9.5	11.8	34.0	54.2
2.11 (0.24)	-2.65	Very soft dark grey slightly sandy silty CLAY. Sand is fine to medium. Non-calcareous.		2.11 - 2.35 B					
2.35 (0.71)	-2.89	*At 2.20 - 2.25m 1 no. subangular coarse gravel size pocket of angular black coal.* Dark brownish grey slightly clayey silty gravelly fine to coarse SAND. Gravel is 60% angular fine to medium shell fragments and 40% angular fine to medium of black coal. Non-calcareous. *At 2.36 - 2.45m 1 no. angular cobble of black coal.*		2.35 - 3.06 B					
				2.90 - 3.00 ES	2.1	13.9	16.0	77.5	6.5
3.06 (1.04)	-3.60	Dark grey slightly gravelly silty fine to medium SAND. Gravel is 100% angular fine shell fragments. Calcareous. *At 3.43 - 3.46m 1 no. subhorizontal very thin bed of angular fine gravel size shell fragments.* *At 3.61 - 3.63m 1 no. subhorizontal thick lamination of very soft brownish grey silty clay.* *At 3.66 - 3.88m 2 no. subangular coarse gravel size pockets of angular fine to medium gravel size shell fragments.*		3.06 - 4.10 B					
				3.90 - 4.00 ES	0.1	7.3	7.4	91.3	1.4
	-4.64	Core recovery ends at 4.10m							

MC and AT results (%): 10 20 30 40 50 60 70 80 90 100

Density (Mg/m3): 0.8 1.0 1.2 1.4 1.6 1.8 2.0

Shear Strength (kPa): 2 4 6 8 10 12 14 16 18

0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Project ID:	POR-00886	**Location Test Date:**	16/03/2025	**Core Location:**	**VC-003**
Vessel:	Willendeavour	**Location Coordinates:**	E 195145.33 N 238728.72	**Depth Logged:**	**4.10m**
Client:	Stena Line	**Seabed Level:**	-0.54 mCD	**Project Area:**	Fishguard Harbour

Equipment used: Vibrocorer c/w 100mm OD PVC liner. Plain shoe with basket core catcher.
Geodetic parameters: WGS 84 UTM Zone 30 N
Assessed penetration: 6.00 m

Core Log Status: FINAL **Checked By:** RC

VC-003

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IN SITU SITE INVESTIGATION

Depth (m) (Thickness)	Level (mCD)	Sediment Description	Legend	Samples & Type (m)	Recovered Material
0.00	-0.93	Greyish brown silty fine to medium SAND. Slightly calcareous.		0.00 - 0.19 B	
(0.19)	-1.12			0.19 - 1.00 B	
0.19		Extremely low strength very soft dark grey, locally mottled black, slightly gravelly sandy silty CLAY. Sand is fine to medium. Gravel is 70% angular to subangular fine shell fragments and 30% angular fine of black coal. Very closely to medium spaced subhorizontal thick laminae to thin beds of dark grey slightly clayey very silty fine to medium sand. Non-calcareous.		0.50 - 0.60 M 0.50 - 0.60 TV	
(3.69)		*At 1.05 - 1.08m 1 no. subrounded medium gravel size pocket of black silt.*		1.00 - 1.15 LV 1.00 - 2.00 B	
				1.50 - 1.60 M 1.50 - 1.60 TV	
				2.00 - 3.00 B	
				2.50 M	
				3.00 - 3.88 B	
				3.40 - 3.50 TV	
		At 3.66 - 3.76m 1 no. subangular cobble size pocket of black silt.			
3.88	-4.81			3.85 - 4.00 LV	
(1.03)		Extremely low strength very soft black, locally dark grey, sandy silty organic CLAY. Sand is fine to medium. Non-calcareous.		3.88 - 4.91 B	
		At 4.07 - 4.13m 1. subrounded coarse gravel size fragment of black fibrous organic debris. Organic odour.			
		At 4.48 - 4.91m Occasional subrounded fine to medium gravel size fragments of black fibrous organic debris with rootlets.		4.50 - 4.60 M 4.50 - 4.60 TV	
	-5.84	Core recovery ends at 4.91m			



0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Project ID:	POR-00886	**Location Test Date:**	15/03/2025	**Core Location:**	**VC-004**	Equipment used:	Vibrocorer c/w 100mm OD PVC liner. Plain shoe with basket core catcher.
Vessel:	Willendeavour	**Location Coordinates:**	E 195150.14 N 238754.94	**Depth Logged:**	**4.91m**	Geodetic parameters:	WGS 84 UTM Zone 30 N
Client:	Stena Line	**Seabed Level:**	-0.93 mCD	**Project Area:**	Fishguard Harbour	**Assessed penetration:**	6.00 m
						Core Log Status: FINAL	**Checked By:** RC

VC-004

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IN SITU SITE INVESTIGATION

Depth (m) (Thickness)	Level (mCD)	Sediment Description	Legend	Samples & Type (m)	Particle Size Distribution (%) Clay	Silt	Fines	Sand	Gravel
0.00	-0.93	Greyish brown silty fine to medium SAND. Slightly calcareous.		0.00 - 0.19 B					
(0.19)	-1.12			0.19 - 1.00 B					
0.19		Extremely low strength very soft dark grey, locally mottled black, slightly gravelly sandy silty CLAY. Sand is fine to medium. Gravel is 70% angular to subangular fine shell fragments and 30% angular fine of black coal. Very closely to medium spaced subhorizontal thick laminae to thin beds of dark grey slightly clayey very silty fine to medium sand. Non-calcareous.		0.50 - 0.60 M 0.50 - 0.60 TV	14.0	49.0	63.0	36.0	1.0
(3.69)				1.00 - 1.15 LV 1.00 - 2.00 B					
		At 1.05 - 1.08m 1 no. subrounded medium gravel size pocket of black silt.		1.50 - 1.60 M 1.50 - 1.60 TV					
				2.00 - 3.00 B					
				2.50 M	4.0	23.0	27.0	73.0	
				3.00 - 3.88 B					
				3.40 - 3.50 TV					
		At 3.66 - 3.76m 1 no. subangular cobble size pocket of black silt.		3.85 - 4.00 LV 3.88 - 4.91 B					
3.88	-4.81	Extremely low strength very soft black, locally dark grey, sandy silty organic CLAY. Sand is fine to medium. Non-calcareous.							
(1.03)		*At 4.07 - 4.13m 1. subrounded coarse gravel size fragment of black fibrous organic debris. Organic odour.*							
		At 4.48 - 4.91m Occasional subrounded fine to medium gravel size fragments of black fibrous organic debris with rootlets.		4.50 - 4.60 M 4.50 - 4.60 TV	12.0	34.0	46.0	54.0	
	-5.84	Core recovery ends at 4.91m							

MC and AT results (%): 10 20 30 40 50 60 70 80 90 100

Density (Mg/m3): 0.8 1.0 1.2 1.4 1.6 1.8 2.0

Shear Strength (kPa): 2 4 6 8 10 12 14 16 18

0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Project ID:	POR-00886	**Location Test Date:**	15/03/2025	**Core Location:**	**VC-004**
Vessel:	Willendeavour	**Location Coordinates:**	E 195150.14 N 238754.94	**Depth Logged:**	**4.91m**
Client:	Stena Line	**Seabed Level:**	-0.93 mCD	**Project Area:**	Fishguard Harbour

Equipment used: Vibrocorer c/w 100mm OD PVC liner. Plain shoe with basket core catcher.
Geodetic parameters: WGS 84 UTM Zone 30 N
Assessed penetration: 6.00 m

Core Log Status: FINAL **Checked By:** RC

VC-004

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IN SITU SITE INVESTIGATION

Depth (m) (Thickness)	Level (mCD)	Sediment Description	Legend	Samples & Type (m)
0.00	-6.03	Dark grey silty fine to medium SAND. Slightly calcareous.		0.00 - 0.12 D
(0.12)	-6.15	Extremely low strength very soft dark brownish grey slightly gravelly sandy silty CLAY. Sand is fine to medium. Gravel is 70% angular to subangular fine to medium shell fragments and 30% subangular fine to medium of black coal. Very closely to closely spaced subhorizontal thick laminae to very thin beds of dark grey silty fine to coarse sand. Non-calcareous.		0.12 - 1.00 B 0.60 - 0.70 M 0.60 - 0.70 TV 1.00 - 2.05 B 1.50 - 1.60 TV 1.80 - 1.90 M
0.12				
(1.93)				
2.05	-8.08	Dark brownish grey slightly silty very sandy fine to coarse GRAVEL. Sand is fine to coarse. Gravel is 70% angular to subrounded fine to coarse of various lithologies and white porcelain and 30% angular to subangular fine to medium shell fragments. Slightly calcareous.		2.05 - 2.55 B
(0.50)				
2.55	-8.58	Brownish grey slightly gravelly silty fine to medium SAND. Gravel is 100% angular to subrounded fine to medium of various lithologies and glass. Non-calcareous.		2.55 - 3.08 B 2.70 - 2.80 M
(0.53)				
3.08	-9.11	Light brownish grey slightly silty very sandy fine to coarse GRAVEL. Sand is fine to coarse. Gravel is 80% angular to subrounded fine to coarse of various lithologies and 20% angular to subangular fine to medium shell fragments. Slightly calcareous.		3.08 - 3.80 B
(0.72)				
	-9.83	Core recovery ends at 3.80m		

Recovered Material



0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Project ID:	POR-00886	**Location Test Date:**	15/03/2025	**Core Location:**	**VC-005A**
Vessel:	Willendeavour	**Location Coordinates:**	E 195164.78 N 238823.52	**Depth Logged:**	**3.80m**
Client:	Stena Line	**Seabed Level:**	-6.03 mCD	**Project Area:**	Fishguard Harbour

Equipment used: Vibrocorer c/w 100mm OD PVC liner. Plain shoe with basket core catcher.
Geodetic parameters: WGS 84 UTM Zone 30 N
Assessed penetration: 4.70 m

Core Log Status: FINAL **Checked By:** RC

VC-005A

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IN SITU SITE INVESTIGATION

Depth (m) (Thickness)	Level (mCD)	Sediment Description	Legend	Samples & Type (m)	Particle Size Distribution (%) Clay	Silt	Fines	Sand	Gravel
0.00	-6.03	Dark grey silty fine to medium SAND. Slightly calcareous.		0.00 - 0.12 D					
(0.12)	-6.15	Extremely low strength very soft dark brownish grey slightly gravelly sandy silty CLAY. Sand is fine to medium. Gravel is 70% angular to subangular fine to medium shell fragments and 30% subangular fine to medium of black coal. Very closely to closely spaced subhorizontal thick laminae to very thin beds of dark grey silty fine to coarse sand. Non-calcareous.		0.12 - 1.00 B 0.60 - 0.70 M 0.60 - 0.70 TV 1.00 - 2.05 B 1.50 - 1.60 TV 1.80 - 1.90 M	12.0	39.0	51.0	47.0	2.0
0.12									
(1.93)									
2.05	-8.08	Dark brownish grey slightly silty very sandy fine to coarse GRAVEL. Sand is fine to coarse. Gravel is 70% angular to subrounded fine to coarse of various lithologies and white porcelain and 30% angular to subangular fine to medium shell fragments. Slightly calcareous.		2.05 - 2.55 B			6.0	37.0	57.0
(0.50)									
2.55	-8.58	Brownish grey slightly gravelly silty fine to medium SAND. Gravel is 100% angular to subrounded fine to medium of various lithologies and glass. Non-calcareous.		2.55 - 3.08 B 2.70 - 2.80 M			6.0	90.0	4.0
(0.53)									
3.08	-9.11	Light brownish grey slightly silty very sandy fine to coarse GRAVEL. Sand is fine to coarse. Gravel is 80% angular to subrounded fine to coarse of various lithologies and 20% angular to subangular fine to medium shell fragments. Slightly calcareous.		3.08 - 3.80 B			1.0	48.0	51.0
(0.72)									
	-9.83	Core recovery ends at 3.80m							

MC and AT results (%): 10 20 30 40 50 60 70 80 90 100

Density (Mg/m3): 0.8 1.0 1.2 1.4 1.6 1.8 2.0

Shear Strength (kPa): 2 4 6 8 10 12 14 16 18

0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Project ID:	POR-00886	**Location Test Date:**	15/03/2025	**Core Location:**	**VC-005A**
Vessel:	Willendeavour	**Location Coordinates:**	E 195164.78 N 238823.52	**Depth Logged:**	**3.80m**
Client:	Stena Line	**Seabed Level:**	-6.03 mCD	**Project Area:**	Fishguard Harbour

Equipment used: Vibrocorer c/w 100mm OD PVC liner. Plain shoe with basket core catcher.

Geodetic parameters: WGS 84 UTM Zone 30 N

Assessed penetration: 4.70 m

Core Log Status: FINAL **Checked By:** RC

VC-005A

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IN SITU SITE INVESTIGATION

Depth (m) (Thickness)	Level (mCD)	Sediment Description	Legend	Samples & Type (m)
0.00 (0.68)	-4.91	Very soft dark brownish grey slightly clayey sandy SILT. Sand is fine to medium. Occasional angular to subangular fine to medium gravel size shell fragments. Non-calcareous. *At 0.21 - 0.24m 1 no. subrounded coarse gravel size pocket of black silt.*		0.00 - 0.68 B
0.68 (1.88)	-5.59	Very soft to soft dark greyish brown slightly sandy silty CLAY. Sand is fine to medium. Closely to medium spaced subhorizontal thick laminae to very thin beds of dark grey silt with frequent fragments of black fibrous organic debris. Occasional angular to subangular fine to medium gravel size shell fragments. Non-calcareous.		0.68 - 2.56 B 0.90 - 1.00 ES 1.90 - 2.00 ES
2.56 (0.34)	-7.47	Very soft dark grey slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is 100% angular to subrounded fine to coarse of various lithologies, predominantly black coal. Non-calcareous.		2.56 - 2.90 B
2.90 (0.43)	-7.81	Soft dark brownish grey slightly gravelly sandy silty CLAY. Sand is fine to medium. Gravel is 100% angular to subangular fine shell fragments. Non-calcareous.		2.90 - 3.00 ES 2.90 - 3.33 B
3.33 (0.23)	-8.24	Dark grey silty gravelly fine to coarse SAND. Gravel is 70% angular fine to medium shell fragments and 30% angular to subangular fine to coarse of dark grey limestone. Slightly calcareous.		3.33 - 3.56 B
3.56 (0.69)	-8.47	Greyish brown slightly silty slightly gravelly fine to medium SAND. Gravel is 100% angular to subrounded fine to medium of various lithologies. Non-calcareous.		3.56 - 4.25 B 3.90 - 4.00 ES
4.25 (0.85)	-9.16	Dark brownish grey silty fine to medium SAND. Calcareous.		4.25 - 5.10 B
	-10.01	Core recovery ends at 5.10m		

Recovered Material



0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Project ID:	POR-00886	**Location Test Date:**	16/03/2025	**Core Location:**	**VC-006**
Vessel:	Willendeavour	**Location Coordinates:**	E 195187.08 N 238802.94	**Depth Logged:**	**5.10m**
Client:	Stena Line	**Seabed Level:**	-4.91 mCD	**Project Area:**	Fishguard Harbour

Equipment used: Vibrocorer c/w 100mm OD PVC liner. Plain shoe with basket core catcher.
Geodetic parameters: WGS 84 UTM Zone 30 N
Assessed penetration: 6.00 m

Core Log Status: FINAL **Checked By:** RC VC-006

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IN SITU SITE INVESTIGATION

Depth (m) (Thickness)	Level (mCD)	Sediment Description	Legend	Samples & Type (m)	Particle Size Distribution (%) Clay	Silt	Fines	Sand	Gravel
0.00 (0.68)	-4.91	Very soft dark brownish grey slightly clayey sandy SILT. Sand is fine to medium. Occasional angular to subangular fine to medium gravel size shell fragments. Non-calcareous. *At 0.21 - 0.24m 1 no. subrounded coarse gravel size pocket of black silt.*		0.00 - 0.68 B					
0.68 (1.88)	-5.59	Very soft to soft dark greyish brown slightly sandy silty CLAY. Sand is fine to medium. Closely to medium spaced subhorizontal thick laminae to very thin beds of dark grey silt with frequent fragments of black fibrous organic debris. Occasional angular to subangular fine to medium gravel size shell fragments. Non-calcareous.		0.68 - 2.56 B					
				0.90 - 1.00 ES	10.4	67.2	77.6	22.3	0.2
				1.90 - 2.00 ES	10.5	58.1	68.7	31.1	0.2
2.56 (0.34)	-7.47	Very soft dark grey slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is 100% angular to subrounded fine to coarse of various lithologies, predominantly black coal. Non-calcareous.		2.56 - 2.90 B					
2.90 (0.43)	-7.81	Soft dark brownish grey slightly gravelly sandy silty CLAY. Sand is fine to medium. Gravel is 100% angular to subangular fine shell fragments. Non-calcareous.		2.90 - 3.00 ES	11.1	44.8	55.9	42.1	2.0
				2.90 - 3.33 B					
3.33 (0.23)	-8.24	Dark grey silty gravelly fine to coarse SAND. Gravel is 70% angular fine to medium shell fragments and 30% angular to subangular fine to coarse of dark grey limestone. Slightly calcareous.		3.33 - 3.56 B					
3.56 (0.69)	-8.47	Greyish brown slightly silty slightly gravelly fine to medium SAND. Gravel is 100% angular to subrounded fine to medium of various lithologies. Non-calcareous.		3.56 - 4.25 B					
				3.90 - 4.00 ES	0.1	4.7	4.8	93.4	1.9
4.25 (0.85)	-9.16	Dark brownish grey silty fine to medium SAND. Calcareous.		4.25 - 5.10 B					
	-10.01	Core recovery ends at 5.10m							

MC and AT results (%): 10 20 30 40 50 60 70 80 90 100

Density (Mg/m3): 0.8 1.0 1.2 1.4 1.6 1.8 2.0

Shear Strength (kPa): 2 4 6 8 10 12 14 16 18

0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Project ID:	POR-00886	**Location Test Date:**	16/03/2025	**Core Location:**	**VC-006**
Vessel:	Willendeavour	**Location Coordinates:**	E 195187.08 N 238802.94	**Depth Logged:**	**5.10m**
Client:	Stena Line	**Seabed Level:**	-4.91 mCD	**Project Area:**	Fishguard Harbour

Equipment used: Vibrocorer c/w 100mm OD PVC liner. Plain shoe with basket core catcher.

Geodetic parameters: WGS 84 UTM Zone 30 N

Assessed penetration: 6.00 m

Core Log Status: FINAL **Checked By:** RC

VC-006

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IN SITU SITE INVESTIGATION

Depth (m) (Thickness)	Level (mCD)	Sediment Description	Legend	Samples & Type (m)
0.00 (1.94)	-2.76	Extremely low strength very soft dark brownish grey slightly sandy silty CLAY. Sand is fine to medium. Closely to medium spaced subhorizontal thin to thick laminae of black silt. Slightly calcareous.		0.00 - 1.00 B 0.50 - 0.60 M 0.50 - 0.60 TV 0.85 - 1.00 LV 1.00 - 1.94 B 1.50 - 1.60 M 1.50 - 1.60 TV 1.85 - 2.00 LV
1.94 (0.82)	-4.70	Dark grey clayey gravelly very silty fine to coarse SAND. Gravel is 100% angular to subrounded fine to coarse of various lithologies, predominantly black coal. Non-calcareous.		1.94 - 2.76 B
2.76 (0.29)	-5.52	Dark grey slightly clayey silty very sandy fine to coarse GRAVEL. Sand is fine to coarse. Gravel is 100% angular to subangular fine to coarse of various lithologies, including black coal and white porcelain. Slightly calcareous.		2.76 - 3.05 B
3.05 (1.53)	-5.81	Greyish brown slightly silty slightly gravelly fine to coarse SAND. Gravel is 70% angular to subangular fine to medium of various lithologies and 30% angular to subangular fine to medium shell fragments. Non-calcareous. *At 3.66 - 3.70m 1 no. 45 deg. subrounded coarse gravel size pocket of black sandy silt.* *At 3.71 - 3.76m 1 no. 45 deg. thin lamination of black sandy silt.*		3.05 - 4.58 B 3.50 - 3.60 M
	-7.34	Core recovery ends at 4.58m		

Recovered Material



0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Project ID:	POR-00886	**Location Test Date:**	14/03/2025	**Core Location:**	**VC-007**
Vessel:	Willendeavour	**Location Coordinates:**	E 195169.88 N 238793.98	**Depth Logged:**	**4.58m**
Client:	Stena Line	**Seabed Level:**	-2.76 mCD	**Project Area:**	Fishguard Harbour

Equipment used: Vibrocorer c/w 100mm OD PVC liner. Plain shoe with basket core catcher.
Geodetic parameters: WGS 84 UTM Zone 30 N
Assessed penetration: 4.90 m

Core Log Status: FINAL **Checked By:** RC

VC-007

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IN SITU SITE INVESTIGATION

Depth (m) (Thickness)	Level (mCD)	Sediment Description	Legend	Samples & Type (m)	Particle Size Distribution (%) Clay	Silt	Fines	Sand	Gravel
0.00 (1.94)	-2.76	Extremely low strength very soft dark brownish grey slightly sandy silty CLAY. Sand is fine to medium. Closely to medium spaced subhorizontal thin to thick laminae of black silt. Slightly calcareous.		0.00 - 1.00 B					
				0.50 - 0.60 M	14.0	55.0	69.0	31.0	
				0.50 - 0.60 TV					
				0.85 - 1.00 LV					
				1.00 - 1.94 B					
				1.50 - 1.60 M					
				1.50 - 1.60 TV					
				1.85 - 2.00 LV					
1.94 (0.82)	-4.70	Dark grey clayey gravelly very silty fine to coarse SAND. Gravel is 100% angular to subrounded fine to coarse of various lithologies, predominantly black coal. Non-calcareous.		1.94 - 2.76 B	7.0	21.0	28.0	56.0	16.0
2.76 (0.29)	-5.52	Dark grey slightly clayey silty very sandy fine to coarse GRAVEL. Sand is fine to coarse. Gravel is 100% angular to subangular fine to coarse of various lithologies, including black coal and white porcelain. Slightly calcareous.		2.76 - 3.05 B	3.0	9.0	12.0	39.0	49.0
3.05 (1.53)	-5.81	Greyish brown slightly silty slightly gravelly fine to coarse SAND. Gravel is 70% angular to subangular fine to medium of various lithologies and 30% angular to subangular fine to medium shell fragments. Non-calcareous.		3.05 - 4.58 B					
		At 3.66 - 3.70m 1 no. 45 deg. subrounded coarse gravel size pocket of black sandy silt.		3.50 - 3.60 M					
		At 3.71 - 3.76m 1 no. 45 deg. thin lamination of black sandy silt.					3.0	93.0	4.0
	-7.34	Core recovery ends at 4.58m							

MC and AT results (%): 10 20 30 40 50 60 70 80 90 100

Density (Mg/m3): 0.8 1.0 1.2 1.4 1.6 1.8 2.0

Shear Strength (kPa): 2 4 6 8 10 12 14 16 18

Depth (m): 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Project ID:	POR-00886	**Location Test Date:**	14/03/2025	**Core Location:**	**VC-007**
Vessel:	Willendeavour	**Location Coordinates:**	E 195169.88 N 238793.98	**Depth Logged:**	**4.58m**
Client:	Stena Line	**Seabed Level:**	-2.76 mCD	**Project Area:**	Fishguard Harbour

Equipment used: Vibrocorer c/w 100mm OD PVC liner. Plain shoe with basket core catcher.

Geodetic parameters: WGS 84 UTM Zone 30 N

Assessed penetration: 4.90 m

Core Log Status: FINAL **Checked By:** RC

VC-007

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IN SITU SITE INVESTIGATION

Depth (m) (Thickness)	Level (mCD)	Sediment Description	Legend	Samples & Type (m)
0.00 (1.53)	-6.42	Very soft dark grey slightly gravelly sandy silty CLAY. Sand is fine to medium. Closely to medium spaced subhorizontal thick laminae to very thin beds of black and dark grey silt. Gravel is 100% angular to subangular fine to medium shell fragments. Slightly calcareous.		0.00 - 1.53 B 0.90 - 1.00 ES
1.53 (0.99)	-7.95	Soft greyish brown slightly gravelly sandy silty CLAY. Sand is fine to medium. Gravel is 100% angular to subangular fine shell fragments. Slightly calcareous.		1.53 - 2.52 B 1.90 - 2.00 ES
2.52 (2.88)	-8.94	Dark grey, locally slightly clayey, silty fine to medium SAND. Occasional subangular fine gravel size shell fragments. Occasional subangular to subrounded fine to medium gravel size pockets of black silt. Slightly calcareous.		2.52 - 4.00 B 2.90 - 3.00 ES 3.90 - 4.00 ES 4.00 - 5.40 B 4.90 - 5.00 ES
	-11.82	Core recovery ends at 5.40m		

Recovered Material



0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Project ID:	POR-00886	**Location Test Date:**	16/03/2025	**Core Location:**	**VC-008**
Vessel:	Willendeavour	**Location Coordinates:**	E 195248.61 N 238846.66	**Depth Logged:**	**5.40m**
Client:	Stena Line	**Seabed Level:**	-6.42 mCD	**Project Area:**	Fishguard Harbour

Equipment used: Vibrocorer c/w 100mm OD PVC liner. Plain shoe with basket core catcher.
Geodetic parameters: WGS 84 UTM Zone 30 N
Assessed penetration: 6.00 m

Core Log Status: FINAL **Checked By:** RC

VC-008

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IN SITU SITE INVESTIGATION

Depth (m) (Thickness)	Level (mCD)	Sediment Description	Legend	Samples & Type (m)	Particle Size Distribution (%) Clay	Silt	Fines	Sand	Gravel
0.00 (1.53)	-6.42	Very soft dark grey slightly gravelly sandy silty CLAY. Sand is fine to medium. Closely to medium spaced subhorizontal thick laminae to very thin beds of black and dark grey silt. Gravel is 100% angular to subangular fine to medium shell fragments. Slightly calcareous.		0.00 - 1.53 B					
				0.90 - 1.00 ES	6.7	47.8	54.5	42.4	3.1
1.53 (0.99)	-7.95	Soft greyish brown slightly gravelly sandy silty CLAY. Sand is fine to medium. Gravel is 100% angular to subangular fine shell fragments. Slightly calcareous.		1.53 - 2.52 B					
				1.90 - 2.00 ES	18.8	39.3	58.0	41.3	0.7
2.52 (2.88)	-8.94	Dark grey, locally slightly clayey, silty fine to medium SAND. Occasional subangular fine gravel size shell fragments. Occasional subangular to subrounded fine to medium gravel size pockets of black silt. Slightly calcareous.		2.52 - 4.00 B					
				2.90 - 3.00 ES	2.9	13.2	16.2	83.1	0.7
				3.90 - 4.00 ES		2.1	2.1	97.9	
				4.00 - 5.40 B					
				4.90 - 5.00 ES	0.2	8.2	8.4	91.5	0.1
	-11.82	Core recovery ends at 5.40m							

MC and AT results (%): 10 20 30 40 50 60 70 80 90 100

Density (Mg/m3): 0.8 1.0 1.2 1.4 1.6 1.8 2.0

Shear Strength (kPa): 2 4 6 8 10 12 14 16 18

0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Project ID:	POR-00886	**Location Test Date:**	16/03/2025	**Core Location:**	**VC-008**
Vessel:	Willendeavour	**Location Coordinates:**	E 195248.61 N 238846.66	**Depth Logged:**	**5.40m**
Client:	Stena Line	**Seabed Level:**	-6.42 mCD	**Project Area:**	Fishguard Harbour

Equipment used: Vibrocorer c/w 100mm OD PVC liner. Plain shoe with basket core catcher.

Geodetic parameters: WGS 84 UTM Zone 30 N

Assessed penetration: 6.00 m

Core Log Status: FINAL **Checked By:** RC

VC-008

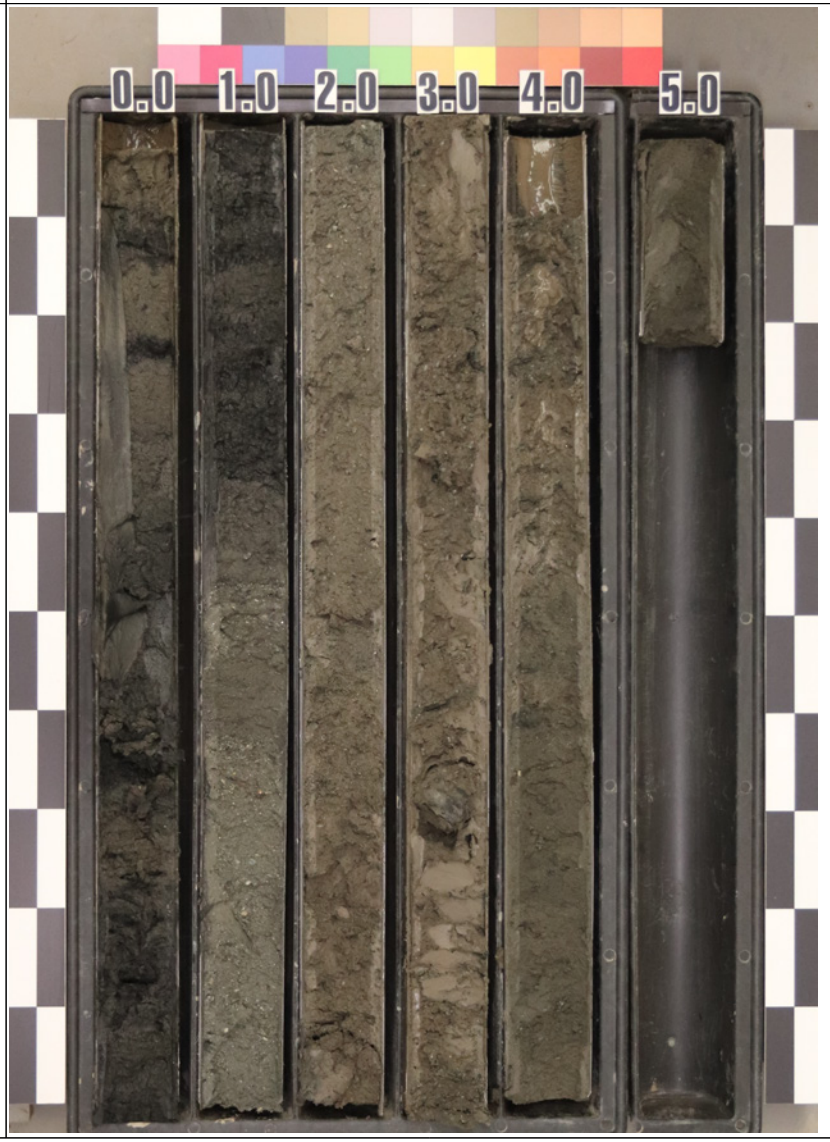
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IN SITU SITE INVESTIGATION

Depth (m) (Thickness)	Level (mCD)	Sediment Description	Legend	Samples & Type (m)
0.00 (0.58)	-5.05	Very soft dark brownish grey slightly clayey slightly sandy SILT. Sand is fine to medium. Slightly calcareous. *At 0.23 - 0.25m 1 no. subrounded coarse gravel size pocket of black silt.*		0.00 - 0.58 B
0.58 (0.79)	-5.63	Very soft to soft dark grey mottled black organic slightly clayey slightly sandy SILT. Sand is fine to medium. Occasional subangular medium to coarse gravel size fragments of black wood and fibrous organic material. Non-calcareous.		0.58 - 1.37 B 0.90 - 1.00 ES
1.37 (0.25)	-6.42	Grey slightly clayey slightly gravelly silty fine to coarse SAND. Gravel is 100% angular to subangular fine shell fragments. Calcareous.		1.37 - 1.62 B
1.62 (1.31)	-6.67	Greyish brown gravelly clayey very silty fine to medium SAND. Gravel is 100% angular to subangular fine to medium shell fragments. Non-Calcareous.		1.62 - 2.93 B 1.90 - 2.00 ES
2.93 (1.03)	-7.98	Very soft to soft greyish brown slightly gravelly sandy silty CLAY. Sand is fine to medium. Gravel is 60% angular fine shell fragments and 40% subrounded fine to coarse of dark grey limestone. Non-calcareous.		2.90 - 3.00 ES 2.93 - 3.96 B
3.96 (0.64)	-9.01	Dark greyish brown slightly gravelly clayey silty fine to medium SAND. Gravel is 60% angular fine shell fragments and 40% subangular fine to medium of dark grey limestone. Non-Calcareous.		3.96 - 4.60 B
4.60 (0.60)	-9.65	Dark brownish grey very silty fine to medium SAND. Occasional angular fine gravel size shell fragments. Calcareous.		4.60 - 5.20 B
	-10.25	Core recovery ends at 5.20m		

Recovered Material



0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Project ID:	POR-00886	**Location Test Date:**	16/03/2025	**Core Location:**	**VC-009**
Vessel:	Willendeavour	**Location Coordinates:**	E 195362.71 N 239163.98	**Depth Logged:**	**5.20m**
Client:	Stena Line	**Seabed Level:**	-5.05 mCD	**Project Area:**	Fishguard Harbour

Equipment used: Vibrocorer c/w 100mm OD PVC liner. Plain shoe with basket core catcher.
Geodetic parameters: WGS 84 UTM Zone 30 N
Assessed penetration: 6.00 m

Core Log Status: FINAL **Checked By:** RC

VC-009

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IN SITU SITE INVESTIGATION

Depth (m) (Thickness)	Level (mCD)	Sediment Description	Legend	Samples & Type (m)	Particle Size Distribution (%) Clay	Silt	Fines	Sand	Gravel
0.00 (0.58)	-5.05	Very soft dark brownish grey slightly clayey slightly sandy SILT. Sand is fine to medium. Slightly calcareous. *At 0.23 - 0.25m 1 no. subrounded coarse gravel size pocket of black silt.*		0.00 - 0.58 B					
0.58 (0.79)	-5.63	Very soft to soft dark grey mottled black organic slightly clayey slightly sandy SILT. Sand is fine to medium. Occasional subangular medium to coarse gravel size fragments of black wood and fibrous organic material. Non-calcareous.		0.58 - 1.37 B					
				0.90 - 1.00 ES	8.8	69.0	77.8	22.1	0.1
1.37 (0.25)	-6.42	Grey slightly clayey slightly gravelly silty fine to coarse SAND. Gravel is 100% angular to subangular fine shell fragments. Calcareous.		1.37 - 1.62 B					
1.62 (1.31)	-6.67	Greyish brown gravelly clayey very silty fine to medium SAND. Gravel is 100% angular to subangular fine to medium shell fragments. Non-Calcareous.		1.62 - 2.93 B					
				1.90 - 2.00 ES	13.4	36.8	50.1	40.5	9.4
2.93 (1.03)	-7.98	Very soft to soft greyish brown slightly gravelly sandy silty CLAY. Sand is fine to medium. Gravel is 60% angular fine shell fragments and 40% subrounded fine to coarse of dark grey limestone. Non-calcareous.		2.90 - 3.00 ES	19.2	37.3	56.6	42.8	0.6
				2.93 - 3.96 B					
3.96 (0.64)	-9.01	Dark greyish brown slightly gravelly clayey silty fine to medium SAND. Gravel is 60% angular fine shell fragments and 40% subangular fine to medium of dark grey limestone. Non-Calcareous.		3.96 - 4.60 B					
4.60 (0.60)	-9.65	Dark brownish grey very silty fine to medium SAND. Occasional angular fine gravel size shell fragments. Calcareous.		4.60 - 5.20 B					
	-10.25	Core recovery ends at 5.20m							

MC and AT results (%): 10 20 30 40 50 60 70 80 90 100

Density (Mg/m3): 0.8 1.0 1.2 1.4 1.6 1.8 2.0

Shear Strength (kPa): 2 4 6 8 10 12 14 16 18

0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Project ID:	POR-00886	**Location Test Date:**	16/03/2025	**Core Location:**	**VC-009**
Vessel:	Willendeavour	**Location Coordinates:**	E 195362.71 N 239163.98	**Depth Logged:**	**5.20m**
Client:	Stena Line	**Seabed Level:**	-5.05 mCD	**Project Area:**	Fishguard Harbour

Equipment used: Vibrocorer c/w 100mm OD PVC liner. Plain shoe with basket core catcher.

Geodetic parameters: WGS 84 UTM Zone 30 N

Assessed penetration: 6.00 m

Core Log Status: FINAL **Checked By:** RC

VC-009

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IN SITU SITE INVESTIGATION

Depth (m) (Thickness)	Level (mCD)	Sediment Description	Legend	Samples & Type (m)
0.00 (1.76)	-5.64	Very soft to soft dark grey, locally mottled black, slightly sandy silty CLAY. Sand is fine to medium. Closely to medium spaced subhorizontal thick laminae and coarse gravel size pockets of black silt, with fibrous organic debris. Occasional angular to subangular fine to medium gravel size shell fragments. Slightly calcareous.		0.00 - 1.76 B 0.90 - 1.00 ES
1.76 (0.40)	-7.40	Brownish grey slightly gravelly clayey very silty fine SAND. Gravel is 90% angular to subangular fine shell fragments and 10% angular to subangular fine to coarse of dark grey limestone. Non-calcareous.		1.76 - 2.16 B 1.90 - 2.00 ES
2.16 (1.35)	-7.80	Very soft to soft greyish brown slightly sandy silty CLAY. Sand is fine. Occasional angular to subangular fine to medium gravel size shell fragments. Non-calcareous.		2.16 - 3.51 B 2.90 - 3.00 ES
3.51 (1.69)	-9.15	Dark grey silty fine to medium SAND. Slightly calcareous. *At 4.55 - 4.65m Very closely spaced subhorizontal indistinct thin laminae of dark grey and black organic debris.*		3.51 - 5.20 B
	-10.84	Core recovery ends at 5.20m		

Recovered Material



0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Project ID:	POR-00886	**Location Test Date:**	16/03/2025	**Core Location:**	**VC-010**
Vessel:	Willendeavour	**Location Coordinates:**	E 195393.27 N 238771.44	**Depth Logged:**	**5.20m**
Client:	Stena Line	**Seabed Level:**	-5.64 mCD	**Project Area:**	Fishguard Harbour

Equipment used: Vibrocorer c/w 100mm OD PVC liner. Plain shoe with basket core catcher.
Geodetic parameters: WGS 84 UTM Zone 30 N
Assessed penetration: 6.00 m

Core Log Status: FINAL **Checked By:** RC

VC-010

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IN SITU SITE INVESTIGATION

Depth (m) (Thickness)	Level (mCD)	Sediment Description	Legend	Samples & Type (m)	Particle Size Distribution (%) Clay	Silt	Fines	Sand	Gravel
0.00 (1.76)	-5.64	Very soft to soft dark grey, locally mottled black, slightly sandy silty CLAY. Sand is fine to medium. Closely to medium spaced subhorizontal thick laminae and coarse gravel size pockets of black silt, with fibrous organic debris. Occasional angular to subangular fine to medium gravel size shell fragments. Slightly calcareous.		0.00 - 1.76 B					
				0.90 - 1.00 ES	9.4	65.1	74.5	25.5	0.1
1.76 (0.40)	-7.40	Brownish grey slightly gravelly clayey very silty fine SAND. Gravel is 90% angular to subangular fine shell fragments and 10% angular to subangular fine to coarse of dark grey limestone. Non-calcareous.		1.76 - 2.16 B					
				1.90 - 2.00 ES	9.7	32.5	42.2	57.1	0.7
2.16 (1.35)	-7.80	Very soft to soft greyish brown slightly sandy silty CLAY. Sand is fine. Occasional angular to subangular fine to medium gravel size shell fragments. Non-calcareous.		2.16 - 3.51 B					
				2.90 - 3.00 ES	28.8	57.9	86.7	13.2	0.2
3.51 (1.69)	-9.15	Dark grey silty fine to medium SAND. Slightly calcareous.		3.51 - 5.20 B					
		At 4.55 - 4.65m Very closely spaced subhorizontal indistinct thin laminae of dark grey and black organic debris.							
	-10.84	Core recovery ends at 5.20m							

MC and AT results (%): 10 20 30 40 50 60 70 80 90 100

Density (Mg/m3): 0.8 1.0 1.2 1.4 1.6 1.8 2.0

Shear Strength (kPa): 2 4 6 8 10 12 14 16 18

0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Project ID:	POR-00886	**Location Test Date:**	16/03/2025	**Core Location:**	**VC-010**
Vessel:	Willendeavour	**Location Coordinates:**	E 195393.27 N 238771.44	**Depth Logged:**	**5.20m**
Client:	Stena Line	**Seabed Level:**	-5.64 mCD	**Project Area:**	Fishguard Harbour

Equipment used: Vibrocorer c/w 100mm OD PVC liner. Plain shoe with basket core catcher.
Geodetic parameters: WGS 84 UTM Zone 30 N
Assessed penetration: 6.00 m

Core Log Status: FINAL **Checked By:** RC

VC-010

Summary of Grab Samples

Survey Area	Grab Sample ID	Date	Eastings	Northings	Seabed Level	Vessel	Remarks
			Datum: WGS 84 UTM Zone 30 N Vertical Datum: mCD				
Fishguard Harbour	GS-003	2025-03-14	195145.33	238728.72	-0.54	Willendeavour	Subsamples taken for logging and chemical testing. Same location as VC-003
Fishguard Harbour	GS-006	2025-03-14	195187.08	238802.94	-4.91	Willendeavour	Subsamples taken for logging and chemical testing. Same location as VC-006
Fishguard Harbour	GS-008	2025-03-14	195248.61	238846.66	-6.42	Willendeavour	Subsamples taken for logging and chemical testing. Same location as VC-008
Fishguard Harbour	GS-009	2025-03-14	195362.71	239163.98	-5.05	Willendeavour	Subsamples taken for logging and chemical testing. Same location as VC-009
Fishguard Harbour	GS-010	2025-03-14	195393.27	238771.44	-5.64	Willendeavour	Subsamples taken for logging and chemical testing. Same location as VC-010

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IN SITU SITE INVESTIGATION

Depth (m) (Thickness)	Level (mCD)	Sediment Description	Legend	Sample & Type (m)	Recovered Material
0.00 (0.20)	-0.54	Dark brownish grey silty fine to medium SAND. Occasional coarse sand to fine gravel size subangular to subrounded shell fragments including rare disarticulated bivalves. Rare elongate thin organic debris, up to 10mm in length. Slightly calcareous.		0.00 - 0.20 D 0.00 - 0.20 ES	
		End of grab sample			

Laboratory Test Results:

Particle Size Distribution (%)

Gravel	0.2
Sand	85.2
Total fines	14.6
Silt	14.3
Clay	0.3

Project ID:	POR-00886	**Location Test Date:**	14/03/2025	**GS Location:**	**GS-003**
Vessel:	Willendeavour	**Location Coordinates:**	E 195145.33 N 238728.72		
Client:	Stena Line	**Seabed Level:**	-0.54 mCD	**Project Area:**	Fishguard Harbour

Comments:
Equipment: Van der Veen grab sampler
Material logged from 1st attempt.

GS Log Status: FINAL **Checked By:** RC

GS-003

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IN SITU SITE INVESTIGATION

Depth (m) (Thickness)	Level (mCD)	Sediment Description	Legend	Sample & Type (m)	Recovered Material
0.00 (0.20)	-4.91	Very soft dark brownish grey slightly clayey sandy SILT. Sand is fine to medium. Occasional subrounded medium to coarse gravel size pockets of dark grey silty fine sand. Occasional coarse sand to fine gravel size subangular to subrounded shell fragments including rare disarticulated bivalves. Occasional elongate thin fibrous organic debris, up to 15mm in length. Slightly calcareous.		0.00 - 0.20 D 0.00 - 0.20 ES	
		End of grab sample			

0.00

0.50

Laboratory Test Results:

Particle Size Distribution (%)

Gravel	0.2
Sand	38.8
Total fines	61.0
Silt	55.2
Clay	5.8

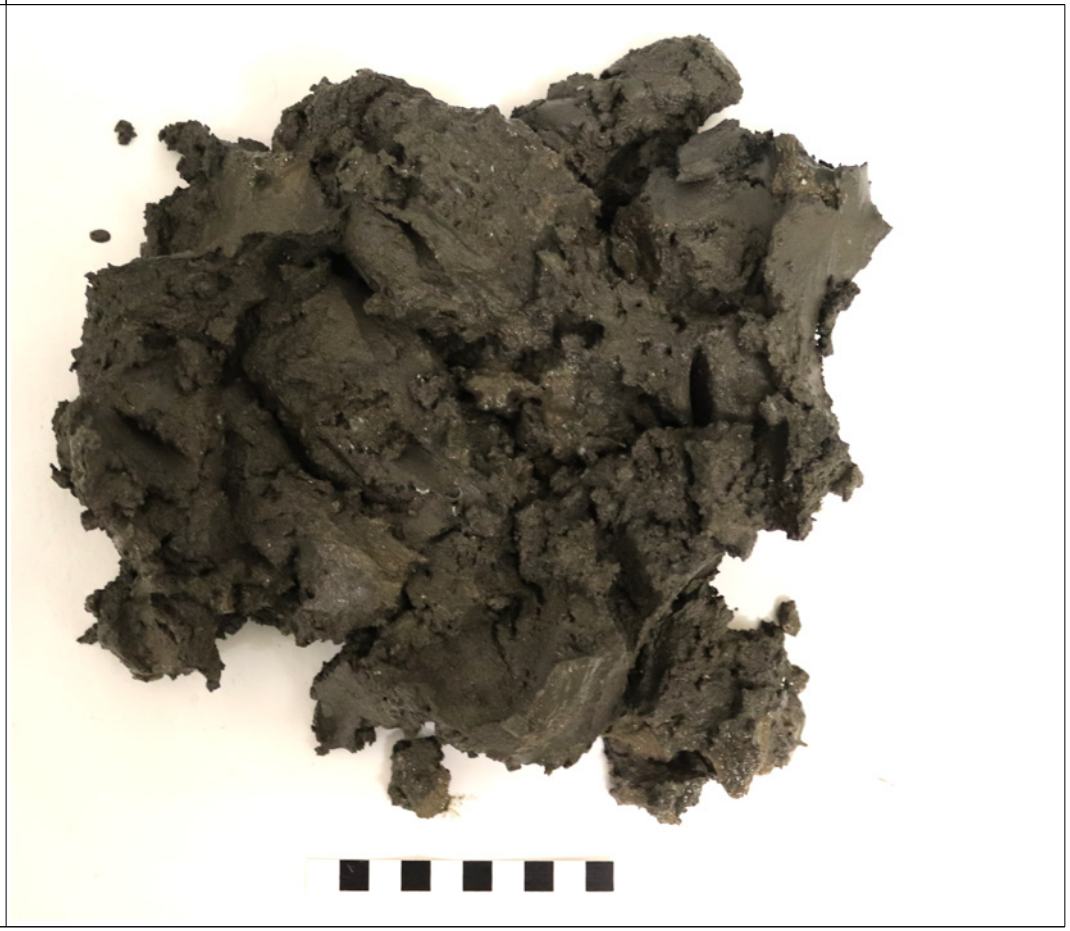
Project ID:	POR-00886	**Location Test Date:**	14/03/2025	**GS Location:**	**GS-006**
Vessel:	Willendeavour	**Location Coordinates:**	E 195187.08 N 238802.94		
Client:	Stena Line	**Seabed Level:**	-4.91 mCD	**Project Area:**	Fishguard Harbour

Comments:
Equipment: Van der Veen grab sampler
Material logged from 1st attempt.

GS Log Status: FINAL **Checked By:** RC

GS-006

Depth (m) (Thickness)	Level (mCD)	Sediment Description	Legend	Sample & Type (m)	Recovered Material
0.00 (0.20)	-6.42	Dark grey clayey very silty fine to medium SAND. Occasional coarse sand to medium gravel size subangular to subrounded shell fragments including rare disarticulated bivalves. Rare elongate thin organic debris, up to 10mm in length. Slightly calcareous.		0.00 - 0.20 D 0.00 - 0.20 ES	
		End of grab sample			



Laboratory Test Results:

Particle Size Distribution (%)

Gravel	0.4
Sand	46.4
Total fines	53.1
Silt	43.8
Clay	9.3

Project ID:	POR-00886	**Location Test Date:**	14/03/2025	**GS Location:**	**GS-008**
Vessel:	Willendeavour	**Location Coordinates:**	E 195248.61 N 238846.66		
Client:	Stena Line	**Seabed Level:**	-6.42 mCD	**Project Area:**	Fishguard Harbour

Comments:
Equipment: Van der Veen grab sampler
Material logged from 1st attempt.

GS Log Status: FINAL **Checked By:** RC

GS-008

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IN SITU SITE INVESTIGATION

Depth (m) (Thickness)	Level (mCD)	Sediment Description	Legend	Sample & Type (m)	Recovered Material
0.00 (0.20)	-5.05	Very soft dark brownish grey slightly clayey slightly sandy SILT. Sand is fine to medium. Occasional subrounded fine to medium gravel size pockets of dark grey silty fine to medium sand. Rare coarse sand to fine gravel size subangular to subrounded shell fragments. Occasional elongate thin organic debris, up to 10mm in length. Slightly calcareous.		0.00 - 0.20 D 0.00 - 0.20 ES	0.00
		End of grab sample			0.50

Laboratory Test Results:

Particle Size Distribution (%)

Gravel	0.3
Sand	26.5
Total fines	73.2
Silt	65.9
Clay	7.3

Project ID:	POR-00886	**Location Test Date:**	14/03/2025	**GS Location:**	**GS-009**
Vessel:	Willendeavour	**Location Coordinates:**	E 195362.71 N 239163.98		
Client:	Stena Line	**Seabed Level:**	-5.05 mCD	**Project Area:**	Fishguard Harbour

Comments:
Equipment: Van der Veen grab sampler
Material logged from 1st attempt.

GS Log Status: FINAL **Checked By:** RC

GS-009

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IN SITU SITE INVESTIGATION

Depth (m) (Thickness)	Level (mCD)	Sediment Description	Legend	Sample & Type (m)	Recovered Material
0.00 (0.20)	-5.64	Very soft dark greyish brown, locally mottled black, slightly sandy silty CLAY. Sand is fine. Slightly calcareous.		0.00 - 0.20 D 0.00 - 0.20 ES	
		End of grab sample			



Laboratory Test Results:

Particle Size Distribution (%)

Gravel	0.1
Sand	20.7
Total fines	79.2
Silt	64.2
Clay	15.0

Project ID:	POR-00886	**Location Test Date:**	14/03/2025	**GS Location:**	**GS-010**
Vessel:	Willendeavour	**Location Coordinates:**	E 195393.27 N 238771.44		
Client:	Stena Line	**Seabed Level:**	-5.64 mCD	**Project Area:**	Fishguard Harbour

Comments:
Equipment: Van der Veen grab sampler
Material logged from 1st attempt.

GS Log Status: FINAL **Checked By:** RC

GS-010

Appendix B Laboratory Test Records

Description	Pages included	Page No.
Geotechnical Testing		
Table MC/DENS – Summary of Moisture & Density Tests	1	65
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Chemical Testing		
RPS CHEM & MMO Suite Results	45	130 – 174
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Summary of Moisture & Density Tests

IN SITU SITE INVESTIGATION

Core ID	Depth		Moisture Content	Bulk Density	Dry Density	Particle Density	Max. Dry Density	Min. Dry Density
	Top (m)	Base (m)	%	Mg/m^3				
VC-001	0.50	0.60	36	1.89	1.39			
VC-001	1.50	1.60	37	1.79	1.31			
VC-001	3.50	3.60	35	1.76	1.31			
VC-002	0.40	0.50	37	1.81	1.32			
VC-002	1.50	1.60	34	1.74	1.30			
VC-002	3.60	3.70	32	1.73	1.31			
VC-002	5.10	5.20	25	1.95	1.56			
VC-004	0.50	0.60	31	1.95	1.49			
VC-004	1.50	1.60	43	1.82	1.27			
VC-004	2.50	2.60	50	1.75	1.17			
VC-004	4.50	4.60	42	1.76	1.24			
VC-005A	0.60	0.70	68	1.59	0.95			
VC-005A	1.80	1.90	89	1.55	0.82			
VC-005A	2.70	2.80	37	1.76	1.28			
VC-007	0.50	0.60	99	1.48	0.75			
VC-007	1.50	1.60	101	1.54	0.77			
VC-007	3.50	3.60	34	1.76	1.31			

Summary of Particle Size Distribution Tests

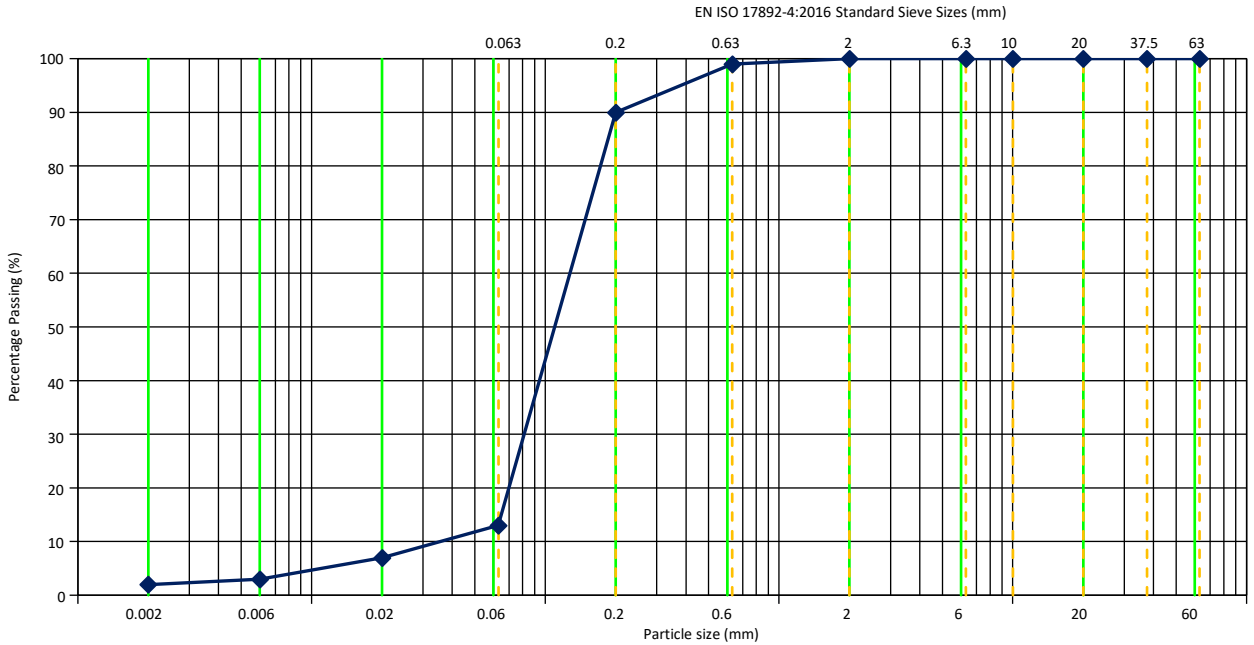
IN SITU SITE INVESTIGATION

Core ID	Depth		PSD			Sediment Fraction (%)					
	Top (m)	Base (m)	Sieve	Sed.	Laser Dif.	Clay	Silt	Total Fines	Sand	Gravel	Cobbles
VC-001	0.00	0.35	Yes	Yes		2.0	11.0	13.0	87.0	-	-
VC-001	0.35	0.89	Yes	Yes		6.0	28.0	34.0	66.0	-	-
VC-001	0.89	2.00	Yes	Yes		4.0	26.0	30.0	70.0	-	-
VC-001	3.35	4.50	Yes			-	-	6.0	93.0	1.0	-
VC-002	0.26	0.60	Yes	Yes		3.0	20.0	23.0	77.0	-	-
VC-002	0.60	0.91	Yes			-	-	9.0	53.0	38.0	-
VC-002	0.91	2.00	Yes			-	-	4.0	96.0	-	-
VC-002	3.35	4.92	Yes			-	-	4.0	88.0	8.0	-
VC-003	0.90	1.00	Yes		Yes	8.6	43.5	52.1	47.8	0.1	-
VC-003	1.90	2.00	Yes		Yes	2.3	9.5	11.8	34.0	54.2	-
VC-003	2.90	3.00	Yes		Yes	2.1	13.9	16.0	77.5	6.5	-
VC-003	3.90	4.00	Yes		Yes	0.1	7.3	7.4	91.3	1.4	-
VC-004	0.19	1.00	Yes	Yes		14.0	49.0	63.0	36.0	1.0	-
VC-004	2.00	3.00	Yes	Yes		4.0	23.0	27.0	73.0	-	-
VC-004	3.88	4.91	Yes	Yes		12.0	34.0	46.0	54.0	-	-
VC-005A	0.12	1.00	Yes	Yes		12.0	39.0	51.0	47.0	2.0	-
VC-005A	2.05	2.55	Yes			-	-	6.0	37.0	57.0	-
VC-005A	2.55	3.08	Yes			-	-	6.0	90.0	4.0	-
VC-005A	3.08	3.80	Yes			-	-	1.0	48.0	51.0	-
VC-006	0.90	1.00	Yes		Yes	10.4	67.2	77.6	22.3	0.2	-
VC-006	1.90	2.00	Yes		Yes	10.5	58.1	68.7	31.1	0.2	-
VC-006	2.90	3.00	Yes		Yes	11.1	44.8	55.9	42.1	2.0	-
VC-006	3.90	4.00	Yes		Yes	0.1	4.7	4.8	93.4	1.9	-
VC-007	0.00	1.00	Yes	Yes		14.0	55.0	69.0	31.0	-	-
VC-007	1.94	2.76	Yes	Yes		7.0	21.0	28.0	56.0	16.0	-
VC-007	2.76	3.05	Yes	Yes		3.0	9.0	12.0	39.0	49.0	-
VC-007	3.05	4.58	Yes			-	-	3.0	93.0	4.0	-
VC-008	0.90	1.00	Yes		Yes	6.7	47.8	54.5	42.4	3.1	-
VC-008	1.90	2.00	Yes		Yes	18.8	39.3	58.0	41.3	0.7	-
VC-008	2.90	3.00	Yes		Yes	2.9	13.2	16.2	83.1	0.7	-
VC-008	3.90	4.00	Yes		Yes	-	2.1	2.1	97.9	-	-
VC-008	4.90	5.00	Yes		Yes	0.2	8.2	8.4	91.5	0.1	-
VC-009	0.90	1.00	Yes		Yes	8.8	69.0	77.8	22.1	0.1	-
VC-009	1.90	2.00	Yes		Yes	13.4	36.8	50.1	40.5	9.4	-
VC-009	2.90	3.00	Yes		Yes	19.2	37.3	56.6	42.8	0.6	-
VC-010	0.90	1.00	Yes		Yes	9.4	65.1	74.5	25.5	0.1	-
VC-010	1.90	2.00	Yes		Yes	9.7	32.5	42.2	57.1	0.7	-
VC-010	2.90	3.00	Yes		Yes	28.8	57.9	86.7	13.2	0.2	-
GS-003	0.00	0.20	Yes		Yes	0.3	14.3	14.6	85.2	0.2	-
GS-006	0.00	0.20	Yes		Yes	5.8	55.2	61.0	38.8	0.2	-
GS-008	0.00	0.20	Yes		Yes	9.3	43.8	53.1	46.4	0.4	-
GS-009	0.00	0.20	Yes		Yes	7.3	65.9	73.2	26.5	0.3	-
GS-010	0.00	0.20	Yes		Yes	15.0	64.2	79.2	20.7	0.1	-

GeoForce TECHNICAL SERVICES LTD

Particle Size Distribution

IN SITU SITE INVESTIGATION



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	7
37.5	100	0.006	3
20	100	0.002	2
10	100		
6.3	100		
2	100		
0.63	99		
0.2	90		
0.063	13		

Sample Proportions		
	Cobbles / boulders	0%
	Gravel	0%
	Sand	87%
	Total Fines	13%
	Silt	11%
	Clay	2%

Sample Details		
	Sample Top, mBGL	0.00
	Sample Base, mBGL	0.35
	Sample Ref	5
	Sample Type	D

Uniformity Coefficient (Cu) D60 / D10	3.5
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	1.4

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	POR-00886
Project	Fishguard Linkspan
Client	Stena Line

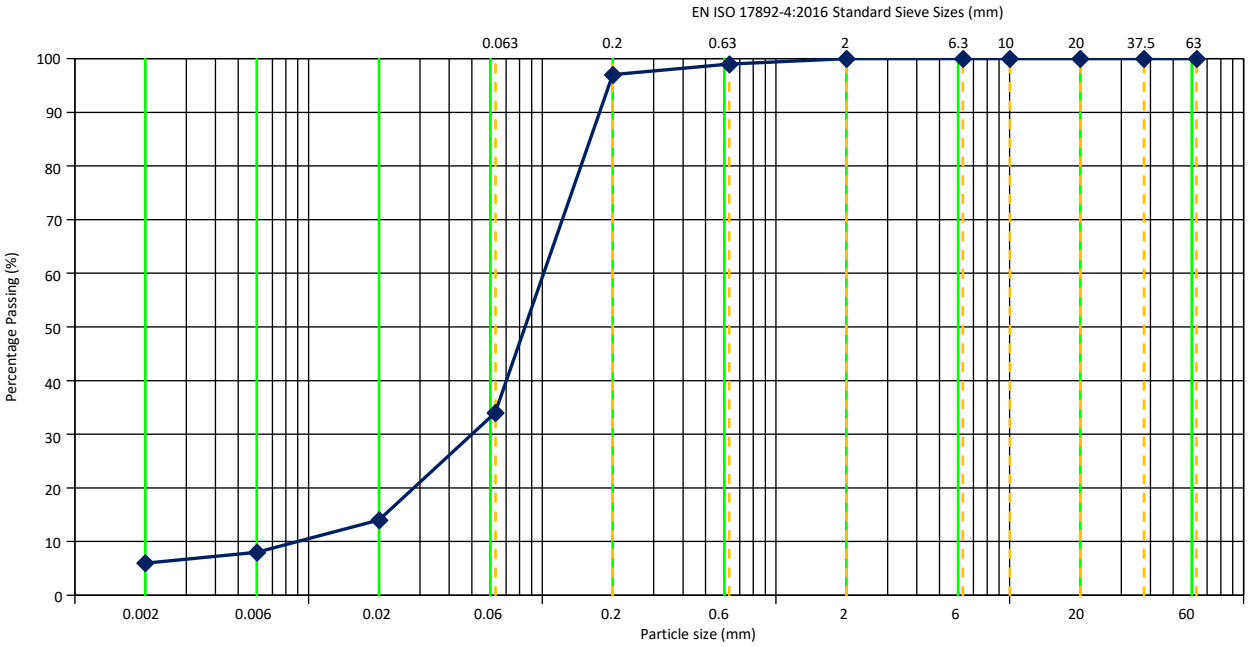
Sample Location

VC-001

Comments

Sample is a slightly clayey silty fine to medium SAND.

Particle Size Distribution



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	14
37.5	100	0.006	8
20	100	0.002	6
10	100		
6.3	100		
2	100		
0.63	99		
0.2	97		
0.063	34		

Sample Proportions	Cobbles / boulders	0%
	Gravel	0%
	Sand	66%
	Total Fines	34%
	Silt	28%
	Clay	6%

Sample Details	Sample Top, mBGL	0.35
	Sample Base, mBGL	0.89
	Sample Ref	6
	Sample Type	B

Uniformity Coefficient (Cu) D60 / D10	11.2
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	2.3

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	POR-00886
Project	Fishguard Linkspan
Client	Stena Line

Sample Location

VC-001

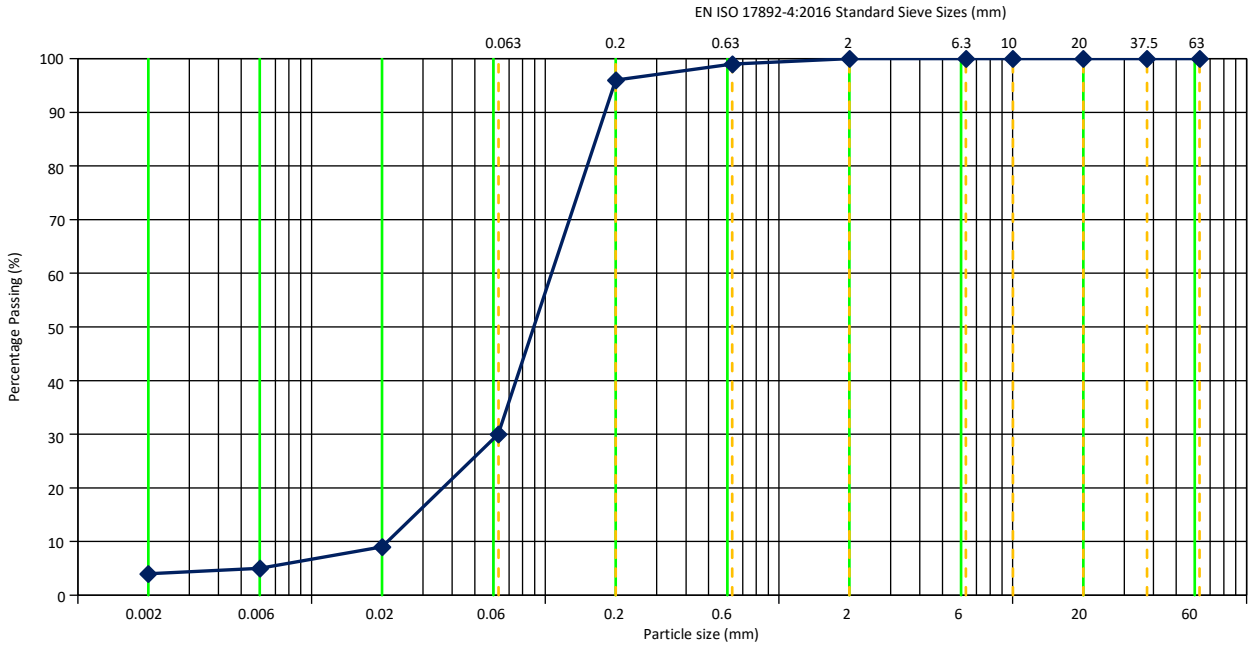
Comments

Sample is a clayey very silty fine SAND.

GeoForce TECHNICAL SERVICES LTD

Particle Size Distribution

IN SITU SITE INVESTIGATION



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	9
37.5	100	0.006	5
20	100	0.002	4
10	100		
6.3	100		
2	100		
0.63	99		
0.2	96		
0.063	30		

Sample Proportions	Cobbles / boulders	0%
	Gravel	0%
	Sand	70%
	Total Fines	30%
	Silt	26%
	Clay	4%

Sample Details	Sample Top, mBGL	0.89
	Sample Base, mBGL	2.00
	Sample Ref	7
	Sample Type	B

Uniformity Coefficient (Cu) D60 / D10	5.7
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	1.4

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	POR-00886
Project	Fishguard Linkspan
Client	Stena Line

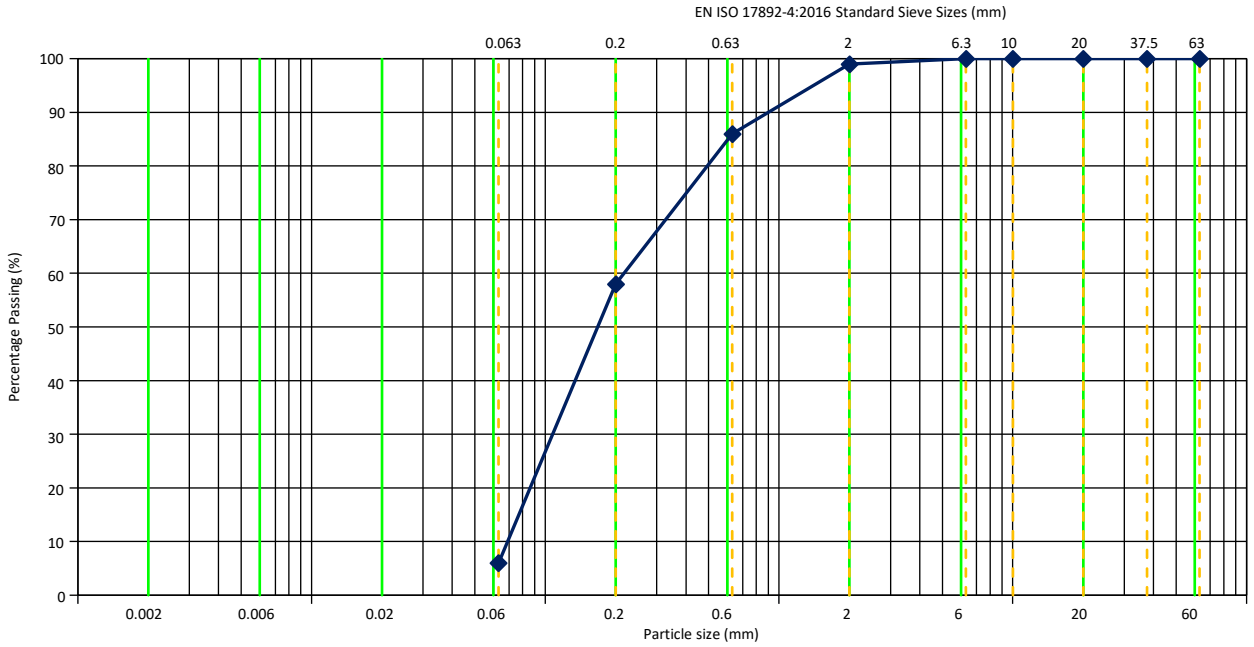
Sample Location

VC-001

Comments

Sample is a slightly clayey very silty fine SAND.

Particle Size Distribution



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	-
37.5	100	0.006	-
20	100	0.002	-
10	100		
6.3	100		
2	99		
0.63	86		
0.2	58		
0.063	6		

Sample Proportions		
	Cobbles / boulders	0%
	Gravel	1%
	Sand	93%
	Total Fines	6%
	Silt	-
	Clay	-

Sample Details		
	Sample Top, mBGL	3.35
	Sample Base, mBGL	4.50
	Sample Ref	8
	Sample Type	B

Uniformity Coefficient (Cu) D60 / D10	3.1
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	0.9

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet

Project Number	POR-00886
Project	Fishguard Linkspan
Client	Stena Line

Sample Location

VC-001

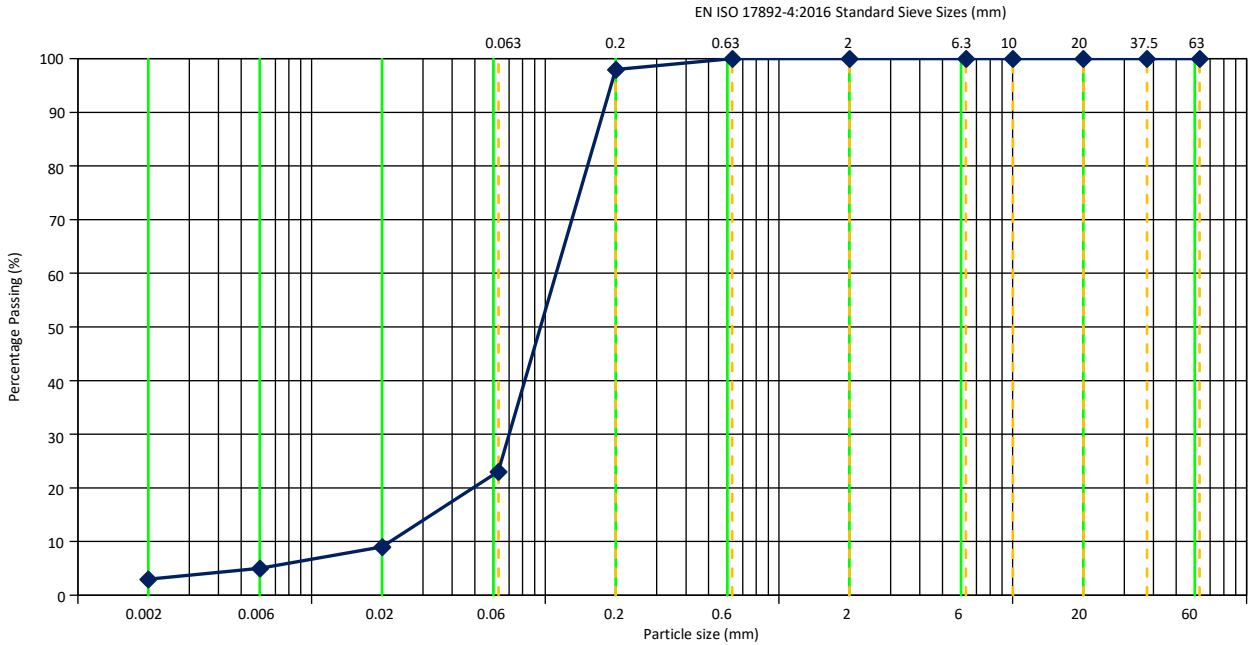
Comments

Sample is a slightly gravelly silty fine to coarse SAND.

GeoForce TECHNICAL SERVICES LTD

Particle Size Distribution

IN SITU SITE INVESTIGATION



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	9
37.5	100	0.006	5
20	100	0.002	3
10	100		
6.3	100		
2	100		
0.63	100		
0.2	98		
0.063	23		

Sample Proportions		
	Cobbles / boulders	0%
	Gravel	0%
	Sand	77%
	Total Fines	23%
	Silt	20%
	Clay	3%

Sample Details		
	Sample Top, mBGL	0.26
	Sample Base, mBGL	0.60
	Sample Ref	6
	Sample Type	B

Uniformity Coefficient (Cu) D60 / D10	5.7
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	1.9

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	POR-00886
Project	Fishguard Linkspan
Client	Stena Line

Sample Location

VC-002

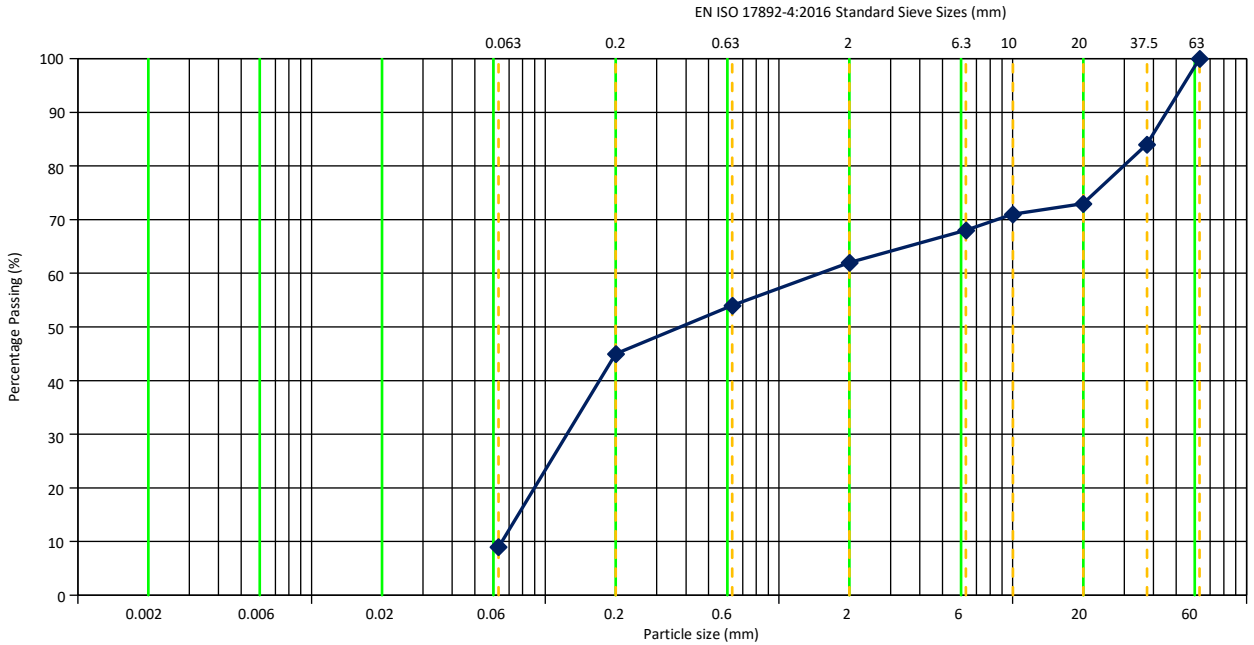
Comments

Sample is a slightly clayey silty fine SAND.

GeoForce TECHNICAL SERVICES LTD

Particle Size Distribution

IN SITU SITE INVESTIGATION



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	-
37.5	84	0.006	-
20	73	0.002	-
10	71		
6.3	68		
2	62		
0.63	54		
0.2	45		
0.063	9		

CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sample Proportions		
	Cobbles / boulders	0%
	Gravel	38%
	Sand	53%
	Total Fines	9%
	Silt	-
	Clay	-

Sample Details		
	Sample Top, mBGL	0.60
	Sample Base, mBGL	0.91
	Sample Ref	7
	Sample Type	B

Uniformity Coefficient (Cu) D60 / D10	24.8
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	0.2

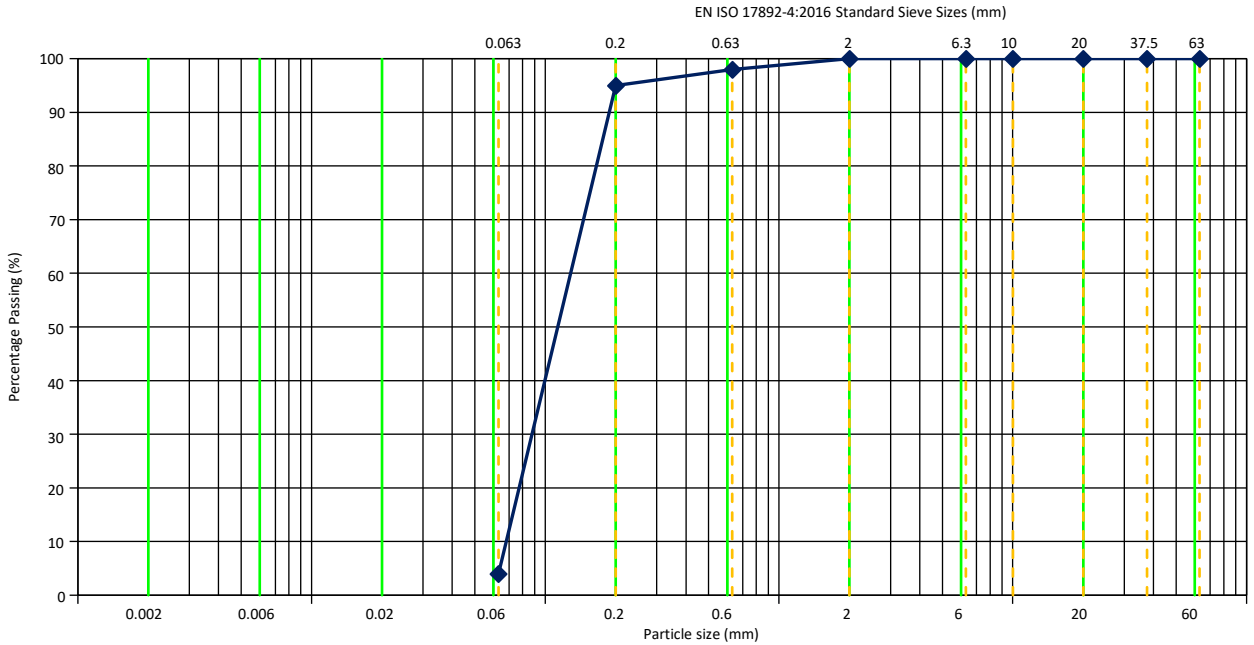
Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet

Project Number	POR-00886	**Sample Location**	**Comments**
Project	Fishguard Linkspan	VC-002	**Sample is a silty very gravelly fine to coarse SAND.**
Client	Stena Line		

GeoForce TECHNICAL SERVICES LTD

Particle Size Distribution

IN SITU SITE INVESTIGATION



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	-
37.5	100	0.006	-
20	100	0.002	-
10	100		
6.3	100		
2	100		
0.63	98		
0.2	95		
0.063	4		

Sample Proportions	
Cobbles / boulders	0%
Gravel	0%
Sand	96%
Total Fines	4%
Silt	-
Clay	-

Sample Details	
Sample Top, mBGL	0.91
Sample Base, mBGL	2.00
Sample Ref	8
Sample Type	B

Uniformity Coefficient (Cu) D60 / D10	2.0
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	1.0

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet

Project Number	POR-00886
Project	Fishguard Linkspan
Client	Stena Line

Sample Location

VC-002

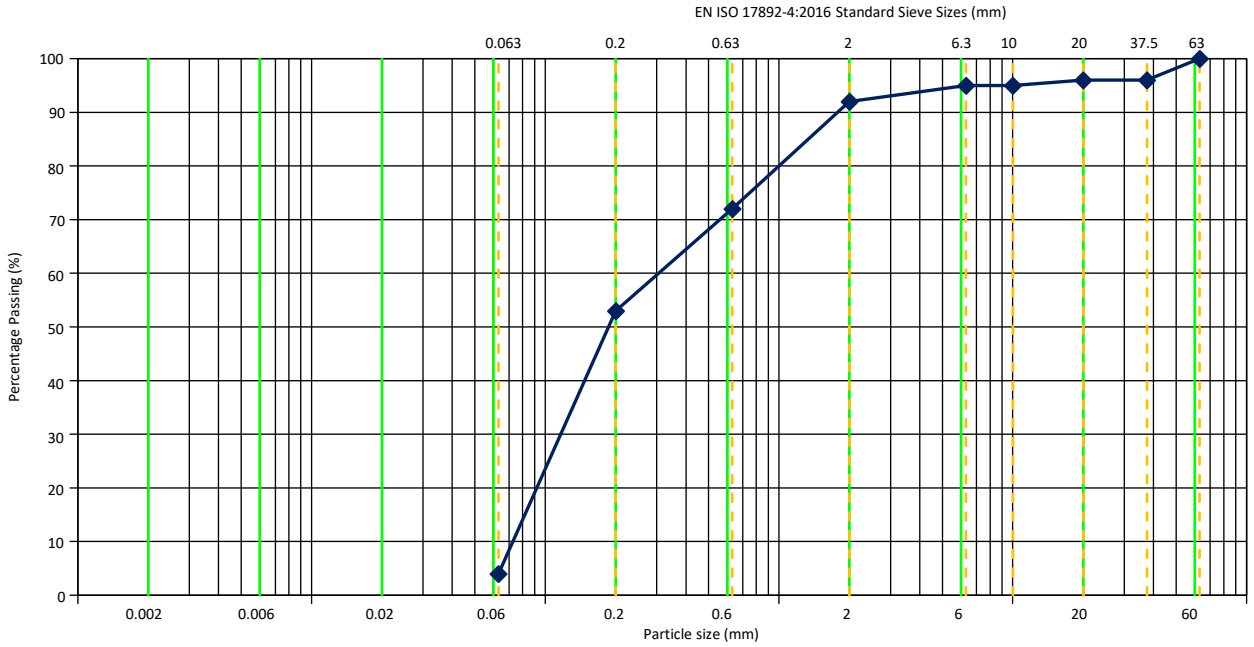
Comments

Sample is a slightly silty fine SAND.

GeoForce TECHNICAL SERVICES LTD

Particle Size Distribution

IN SITU SITE INVESTIGATION



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	-
37.5	96	0.006	-
20	96	0.002	-
10	95		
6.3	95		
2	92		
0.63	72		
0.2	53		
0.063	4		

Sample Proportions		
	Cobbles / boulders	0%
	Gravel	8%
	Sand	88%
	Total Fines	4%
	Silt	-
	Clay	-

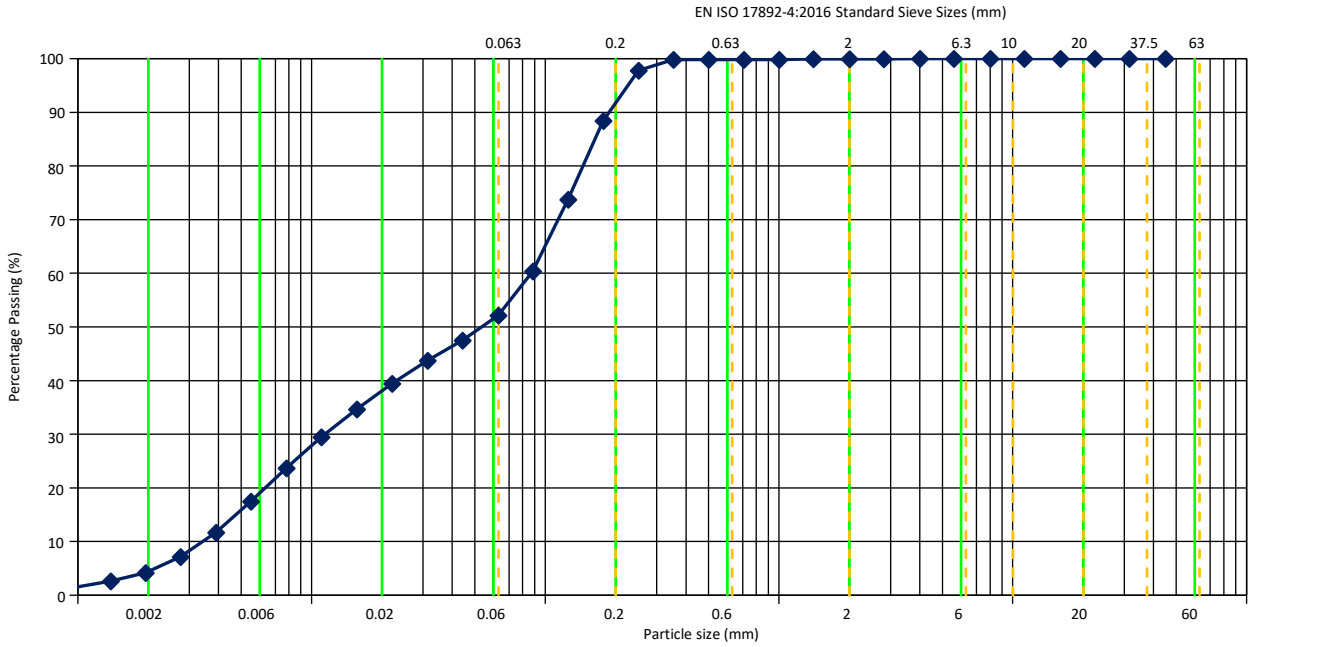
Sample Details		
	Sample Top, mBGL	3.35
	Sample Base, mBGL	4.92
	Sample Ref	10
	Sample Type	B

Uniformity Coefficient (Cu) D60 / D10	4.5
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	0.6

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet

Project Number	POR-00886	**Sample Location**	**Comments**
Project	Fishguard Linkspan	VC-002	**Sample is a slightly silty gravelly fine to coarse SAND.**
Client	Stena Line		

Particle Size Distribution



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Particle Size mm	% Passing	Particle Size mm	% Passing
45	100.0	0.04420	47.5
31.5	100.0	0.03130	43.7
22.4	100.0	0.02210	39.4
16	100.0	0.01560	34.7
11.2	100.0	0.01100	29.5
8	100.0	0.00780	23.7
5.6	100.0	0.00550	17.5
4	100.0	0.00390	11.7
2.8	100.0	0.00275	7.1
2	99.9	0.00195	4.2
1.4	99.9	0.00138	2.6
1	99.9	0.00098	1.5
0.707	99.9	0.00069	0.4
0.500	99.9	0.00049	0.0
0.354	99.9	0.00034	0.0
0.250	97.8	0.00024	0.0
0.177	88.4	0.00017	0.0
0.125	73.8	0.00012	0.0
0.088	60.4	0.00009	0.0
0.063	52.1	0.00006	0.0
		0.00004	0.0

Sample Proportions	
Cobbles / boulders	0.0%
Gravel	0.1%
Sand	47.8%
Total Fines	52.1%
Silt	43.5%
Clay	8.6%

Sample Details	
Sample Top, mBGL	0.90
Sample Base, mBGL	1.00
Sample Ref	1
Sample Type	ES

Uniformity Coefficient (Cu) D60 / D10	25.1
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	0.4

Test Method	
Wet & dry sieving	
Laser diffraction	

Project Number	POR-00886
Project	Fishguard Linkspan
Client	Stena Line

Sample Location

VC-003

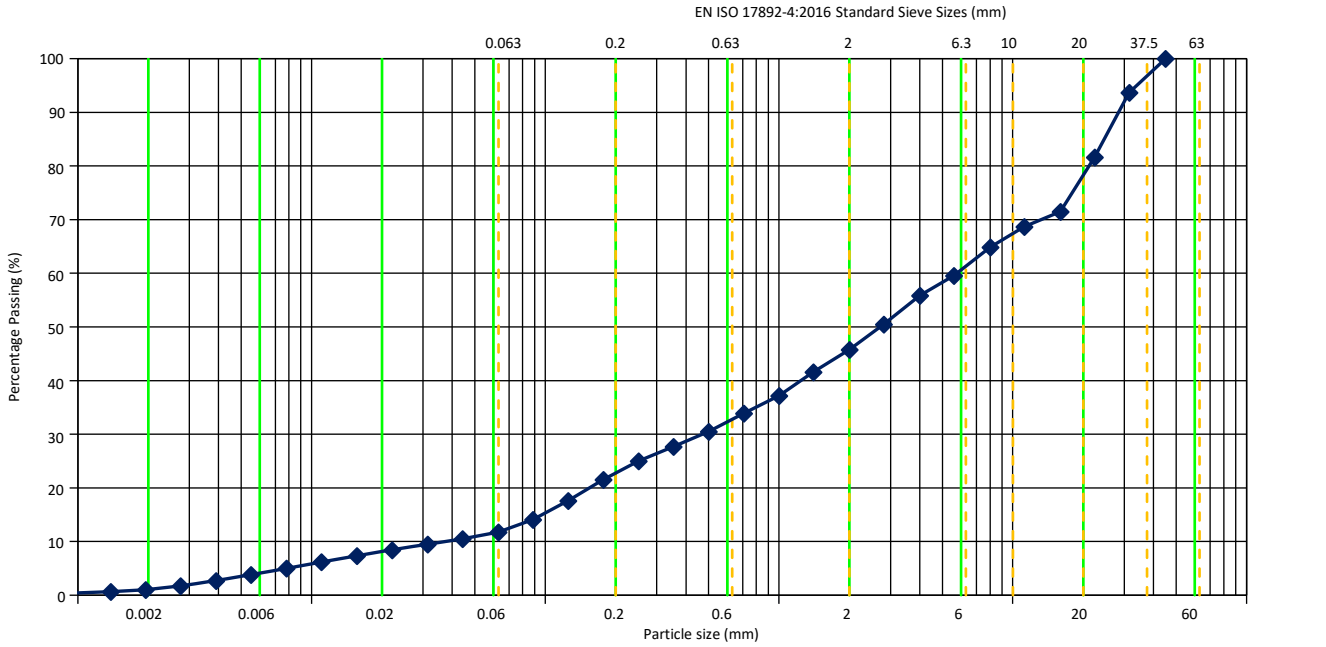
Comments

Sample is a clayey very silty fine to medium SAND.

GeoForce TECHNICAL SERVICES LTD

Particle Size Distribution

IN SITU SITE INVESTIGATION



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Particle Size mm	% Passing	Particle Size mm	% Passing
45	100.0	0.04420	10.5
31.5	93.7	0.03130	9.5
22.4	81.6	0.02210	8.4
16	71.5	0.01560	7.3
11.2	68.7	0.01100	6.2
8	64.9	0.00780	5.0
5.6	59.6	0.00550	3.8
4	55.8	0.00390	2.7
2.8	50.5	0.00275	1.7
2	45.8	0.00195	1.0
1.4	41.6	0.00138	0.7
1	37.2	0.00098	0.4
0.707	33.9	0.00069	0.1
0.500	30.5	0.00049	0.0
0.354	27.7	0.00034	0.0
0.250	25.0	0.00024	0.0
0.177	21.6	0.00017	0.0
0.125	17.6	0.00012	0.0
0.088	14.1	0.00009	0.0
0.063	11.8	0.00006	0.0
		0.00004	0.0

Sample Proportions	
Cobbles / boulders	0.0%
Gravel	54.2%
Sand	34.0%
Total Fines	11.8%
Silt	9.5%
Clay	2.3%

Sample Details	
Sample Top, mBGL	1.90
Sample Base, mBGL	2.00
Sample Ref	2
Sample Type	ES

Uniformity Coefficient (Cu) D60 / D10	152.6
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	1.0

Test Method	
Wet & dry sieving	
Laser diffraction	

Project Number	POR-00886
Project	Fishguard Linkspan
Client	Stena Line

Sample Location

VC-003

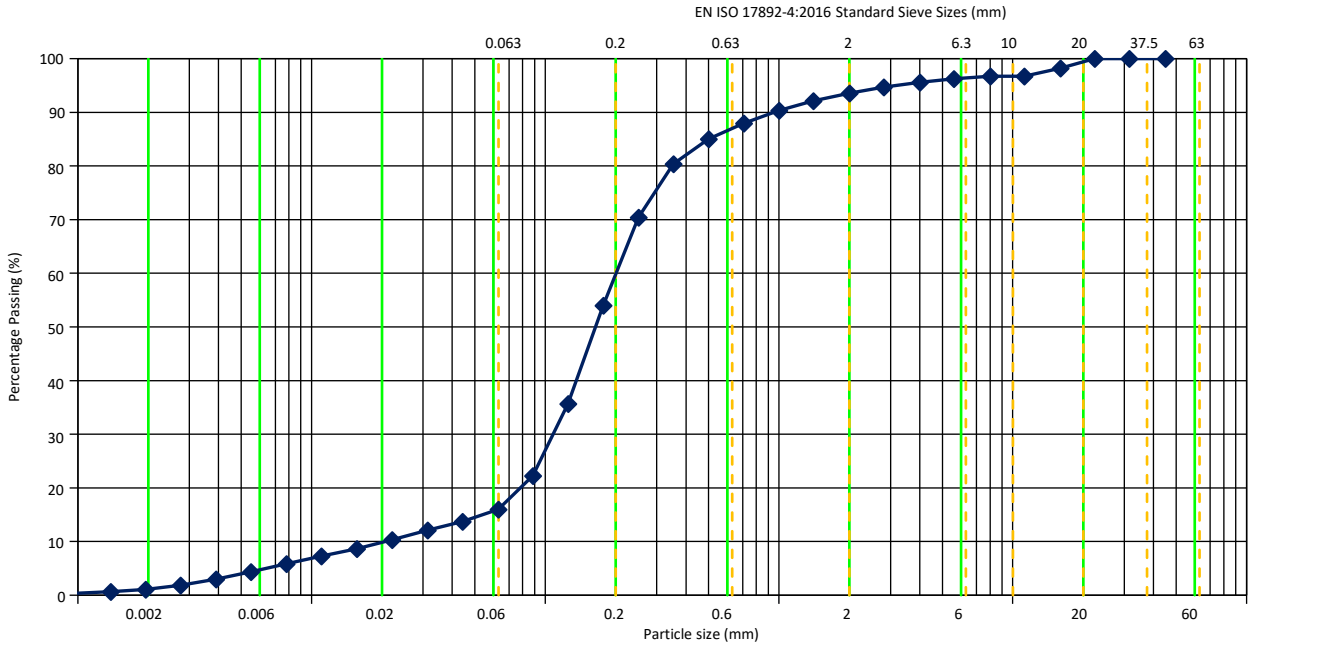
Comments

Sample is a slightly clayey silty very sandy fine to coarse GRAVEL.

GeoForce TECHNICAL SERVICES LTD

Particle Size Distribution

IN SITU SITE INVESTIGATION



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Particle Size mm	% Passing	Particle Size mm	% Passing
45	100.0	0.04420	13.7
31.5	100.0	0.03130	12.1
22.4	100.0	0.02210	10.3
16	98.2	0.01560	8.7
11.2	96.7	0.01100	7.3
8	96.7	0.00780	5.9
5.6	96.2	0.00550	4.4
4	95.6	0.00390	3.0
2.8	94.7	0.00275	1.8
2	93.5	0.00195	1.1
1.4	92.1	0.00138	0.6
1	90.3	0.00098	0.3
0.707	88.0	0.00069	0.1
0.500	85.0	0.00049	0.0
0.354	80.4	0.00034	0.0
0.250	70.4	0.00024	0.0
0.177	54.0	0.00017	0.0
0.125	35.7	0.00012	0.0
0.088	22.3	0.00009	0.0
0.063	16.0	0.00006	0.0
		0.00004	0.0

Sample Proportions	
Cobbles / boulders	0.0%
Gravel	6.5%
Sand	77.5%
Total Fines	16.0%
Silt	13.9%
Clay	2.1%

Sample Details	
Sample Top, mBGL	2.90
Sample Base, mBGL	3.00
Sample Ref	3
Sample Type	ES

Uniformity Coefficient (Cu) D60 / D10	9.7
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	2.8

Test Method	
Wet & dry sieving	
Laser diffraction	

Project Number	POR-00886
Project	Fishguard Linkspan
Client	Stena Line

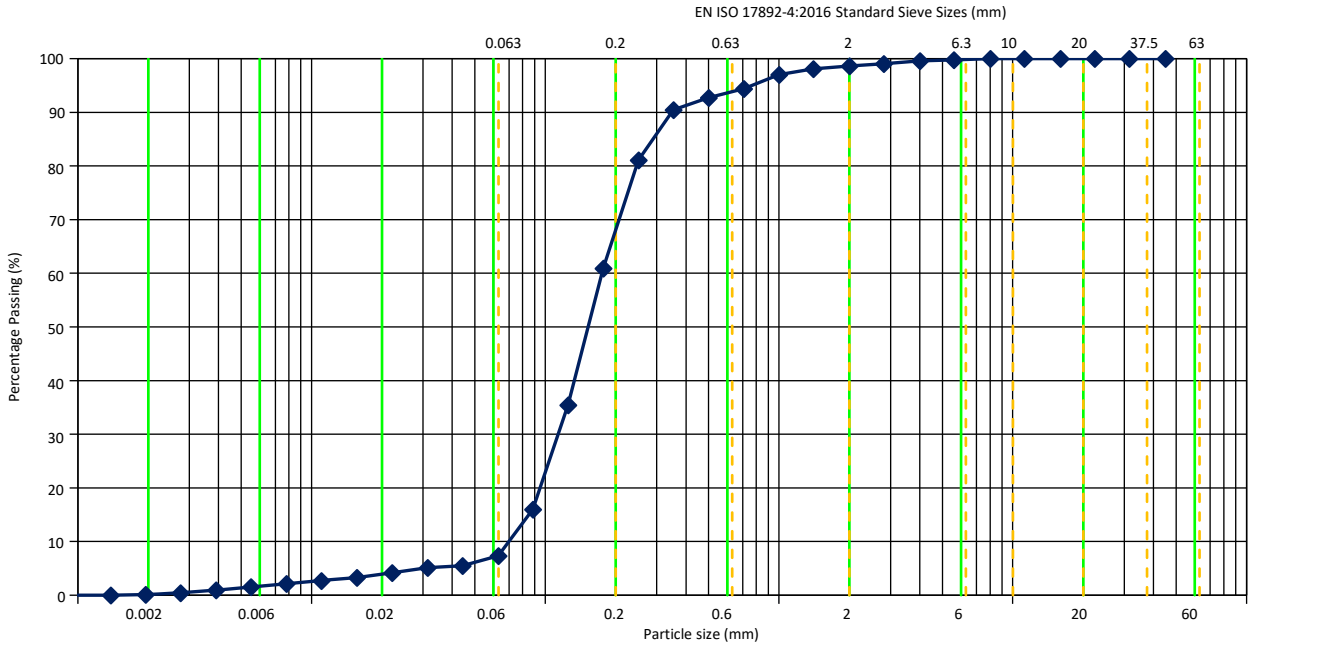
Sample Location

VC-003

Comments

Sample is a slightly clayey silty gravelly fine to coarse SAND.

Particle Size Distribution



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Particle Size mm	% Passing	Particle Size mm	% Passing
45	100.0	0.04420	5.5
31.5	100.0	0.03130	5.1
22.4	100.0	0.02210	4.2
16	100.0	0.01560	3.3
11.2	100.0	0.01100	2.7
8	100.0	0.00780	2.2
5.6	99.8	0.00550	1.6
4	99.6	0.00390	1.0
2.8	99.1	0.00275	0.4
2	98.7	0.00195	0.1
1.4	98.1	0.00138	0.0
1	97.0	0.00098	0.0
0.707	94.4	0.00069	0.0
0.500	92.7	0.00049	0.0
0.354	90.4	0.00034	0.0
0.250	81.1	0.00024	0.0
0.177	60.9	0.00017	0.0
0.125	35.5	0.00012	0.0
0.088	16.0	0.00009	0.0
0.063	7.4	0.00006	0.0
		0.00004	0.0

Sample Proportions	
Cobbles / boulders	0.0%
Gravel	1.4%
Sand	91.3%
Total Fines	7.4%
Silt	7.3%
Clay	0.1%

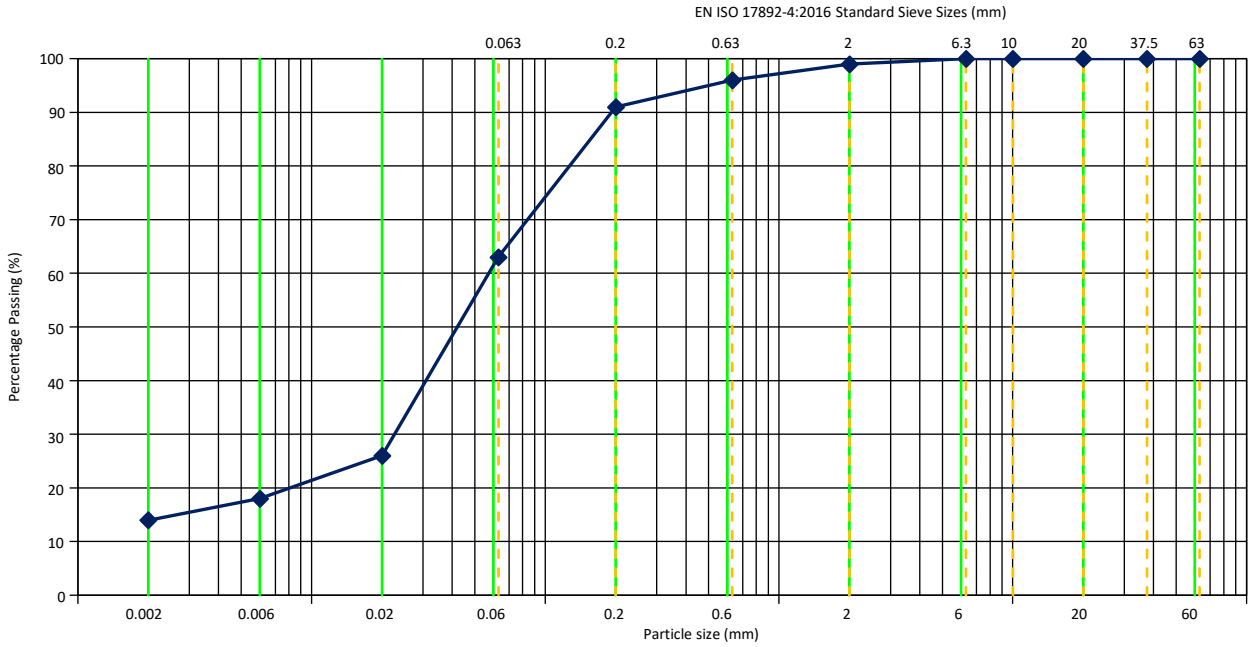
Sample Details	
Sample Top, mBGL	3.90
Sample Base, mBGL	4.00
Sample Ref	4
Sample Type	ES

Uniformity Coefficient (Cu) D60 / D10	2.5
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	1.1

Test Method	
Wet & dry sieving	
Laser diffraction	

Project Number	POR-00886	**Sample Location**	**Comments**
Project	Fishguard Linkspan	VC-003	**Sample is a slightly gravelly silty fine to medium SAND.**
Client	Stena Line		

Particle Size Distribution



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	26
37.5	100	0.006	18
20	100	0.002	14
10	100		
6.3	100		
2	99		
0.63	96		
0.2	91		
0.063	63		

Sample Proportions	Cobbles / boulders	0%
	Gravel	1%
	Sand	36%
	Total Fines	63%
	Silt	49%
	Clay	14%

Sample Details	Sample Top, mBGL	0.19
	Sample Base, mBGL	1.00
	Sample Ref	12
	Sample Type	B

Uniformity Coefficient (Cu) D60 / D10	-
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	-

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	POR-00886
Project	Fishguard Linkspan
Client	Stena Line

Sample Location

VC-004

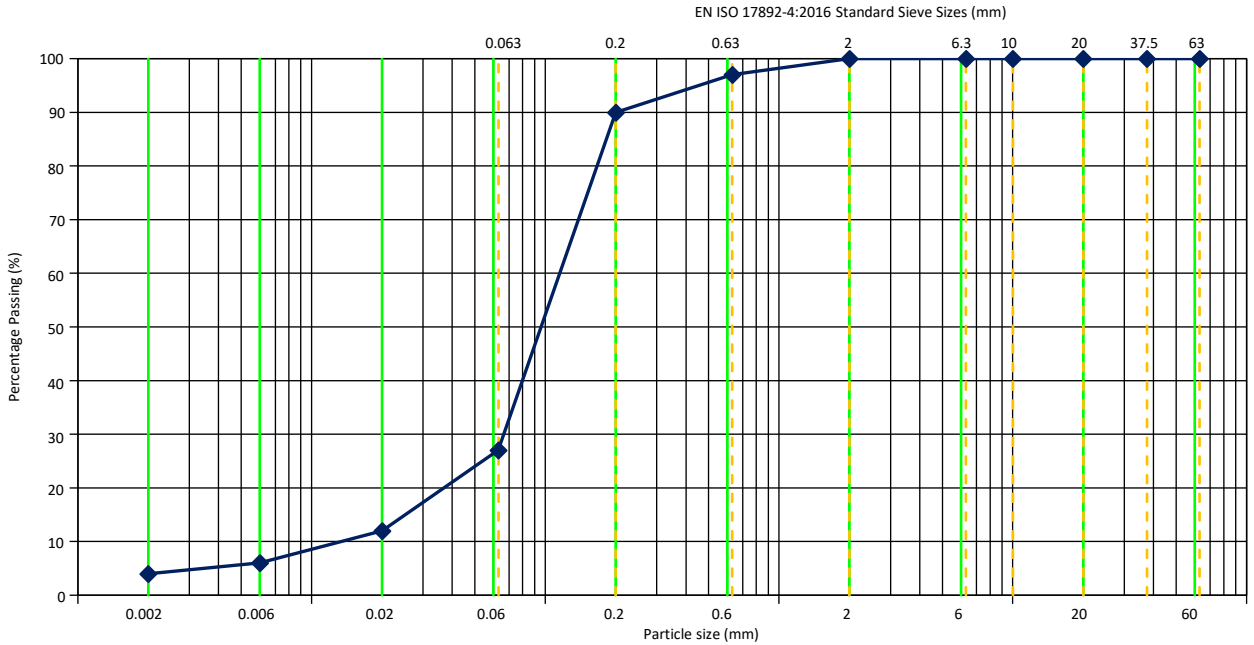
Comments

Sample is a slightly gravelly sandy silty CLAY.

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Particle Size Distribution

IN SITU SITE INVESTIGATION



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	12
37.5	100	0.006	6
20	100	0.002	4
10	100		
6.3	100		
2	100		
0.63	97		
0.2	90		
0.063	27		

Sample Proportions		
	Cobbles / boulders	0%
	Gravel	0%
	Sand	73%
	Total Fines	27%
	Silt	23%
	Clay	4%

Sample Details		
	Sample Top, mBGL	2.00
	Sample Base, mBGL	3.00
	Sample Ref	14
	Sample Type	B

Uniformity Coefficient (Cu) D60 / D10	8.8
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	2.3

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	POR-00886
Project	Fishguard Linkspan
Client	Stena Line

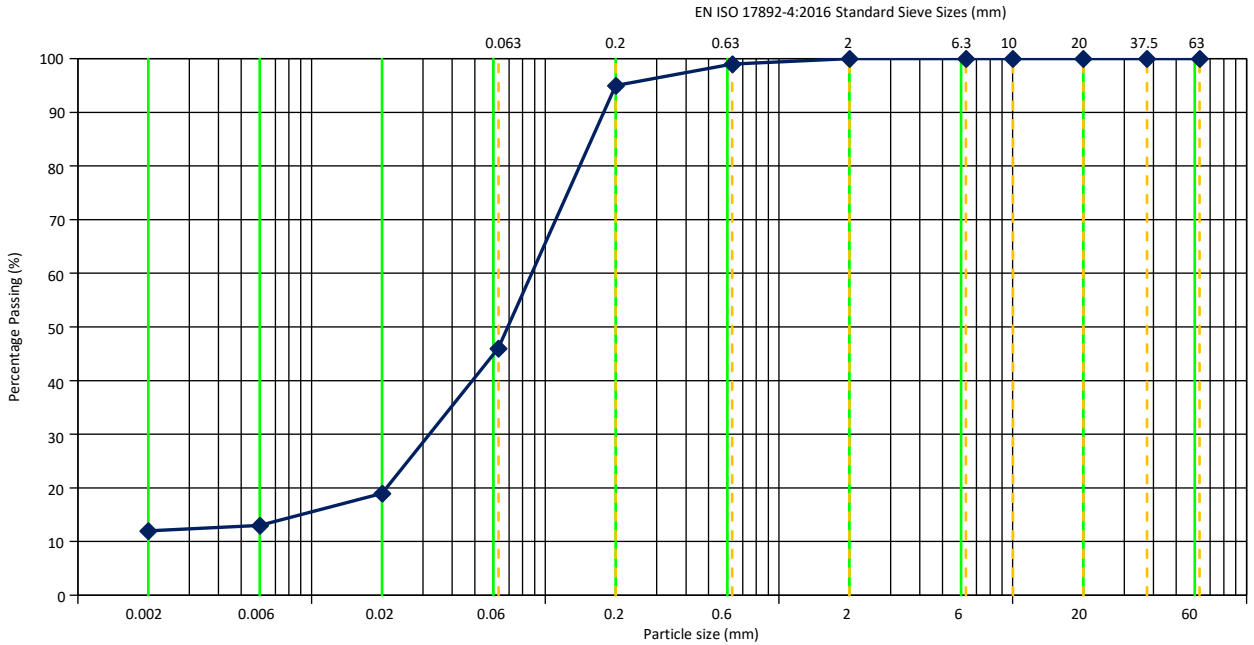
Sample Location

VC-004

Comments

Sample is a slightly clayey very silty fine to medium SAND.

Particle Size Distribution



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	19
37.5	100	0.006	13
20	100	0.002	12
10	100		
6.3	100		
2	100		
0.63	99		
0.2	95		
0.063	46		

Sample Proportions	Cobbles / boulders	0%
	Gravel	0%
	Sand	54%
	Total Fines	46%
	Silt	34%
	Clay	12%

Sample Details	Sample Top, mBGL	3.88
	Sample Base, mBGL	4.91
	Sample Ref	16
	Sample Type	B

Uniformity Coefficient (Cu) D60 / D10	-
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	-

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	POR-00886
Project	Fishguard Linkspan
Client	Stena Line

Sample Location

VC-004

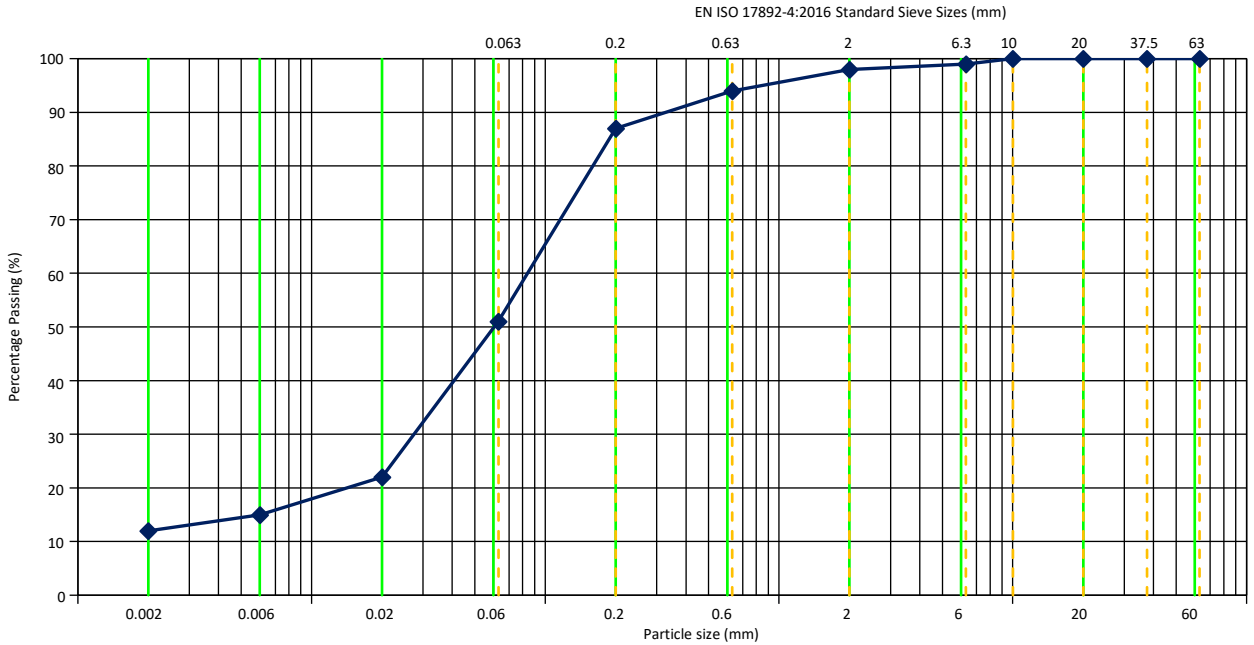
Comments

Sample is a sandy silty CLAY.

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Particle Size Distribution

IN SITU SITE INVESTIGATION



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	22
37.5	100	0.006	15
20	100	0.002	12
10	100		
6.3	99		
2	98		
0.63	94		
0.2	87		
0.063	51		

CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sample Proportions		
	Cobbles / boulders	0%
	Gravel	2%
	Sand	47%
	Total Fines	51%
	Silt	39%
	Clay	12%

Sample Details		
	Sample Top, mBGL	0.12
	Sample Base, mBGL	1.00
	Sample Ref	7
	Sample Type	B

Uniformity Coefficient (Cu) D60 / D10	-
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	-

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	POR-00886
Project	Fishguard Linkspan
Client	Stena Line

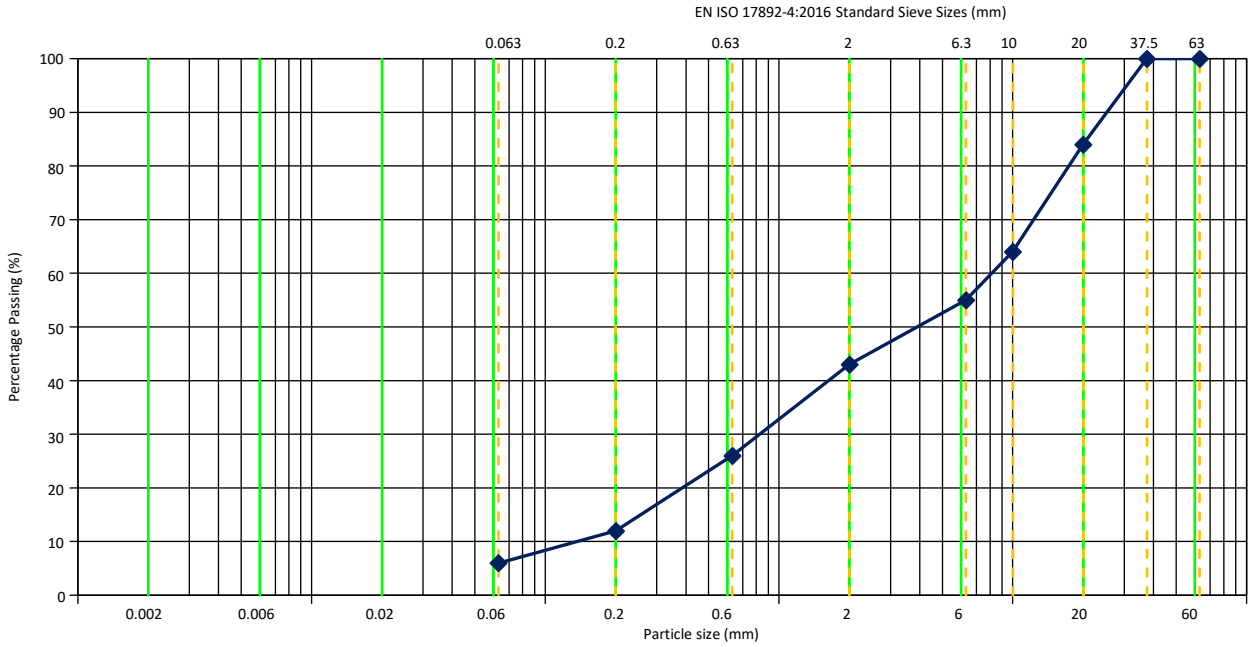
Sample Location

VC-005A

Comments

Sample is a slightly gravelly sandy silty CLAY.

Particle Size Distribution



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	-
37.5	100	0.006	-
20	84	0.002	-
10	64		
6.3	55		
2	43		
0.63	26		
0.2	12		
0.063	6		

Sample Proportions	Cobbles / boulders	0%
	Gravel	57%
	Sand	37%
	Total Fines	6%
	Silt	-
	Clay	-

Sample Details	Sample Top, mBGL	2.05
	Sample Base, mBGL	2.55
	Sample Ref	9
	Sample Type	B

Uniformity Coefficient (Cu) D60 / D10	54.1
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	0.7

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet

Project Number	POR-00886
Project	Fishguard Linkspan
Client	Stena Line

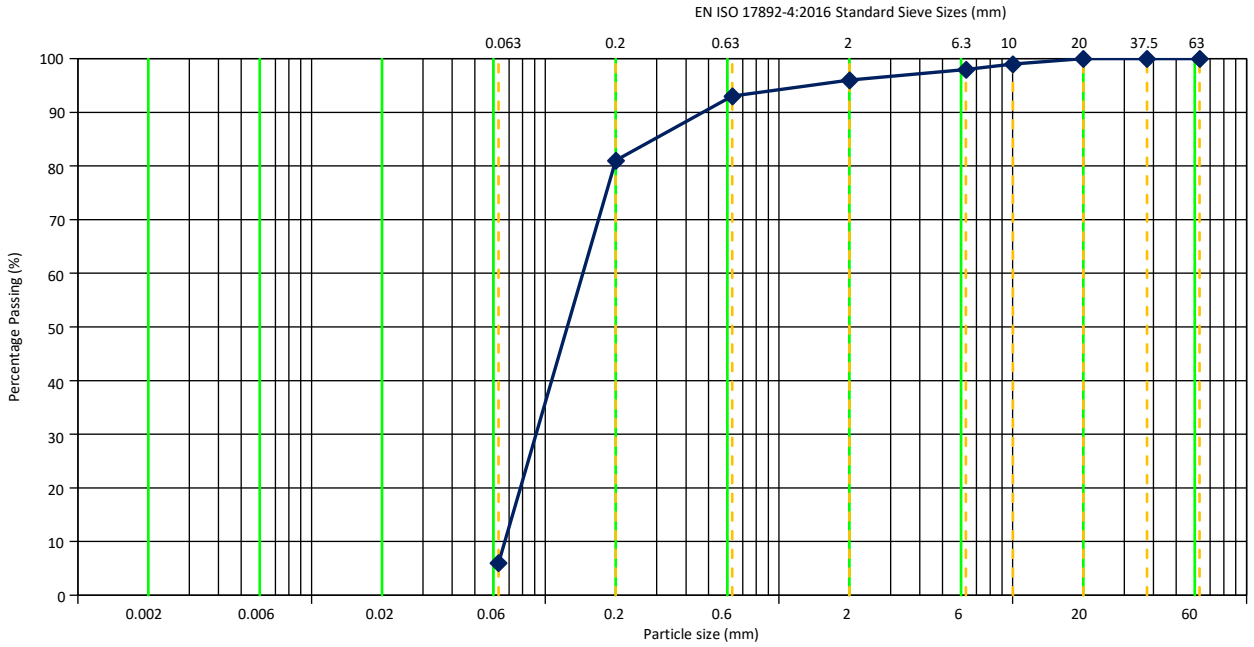
Sample Location

VC-005A

Comments

Sample is a silty very sandy fine to coarse GRAVEL.

Particle Size Distribution



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	-
37.5	100	0.006	-
20	100	0.002	-
10	99		
6.3	98		
2	96		
0.63	93		
0.2	81		
0.063	6		

CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sample Proportions		
	Cobbles / boulders	0%
	Gravel	4%
	Sand	90%
	Total Fines	6%
	Silt	-
	Clay	-

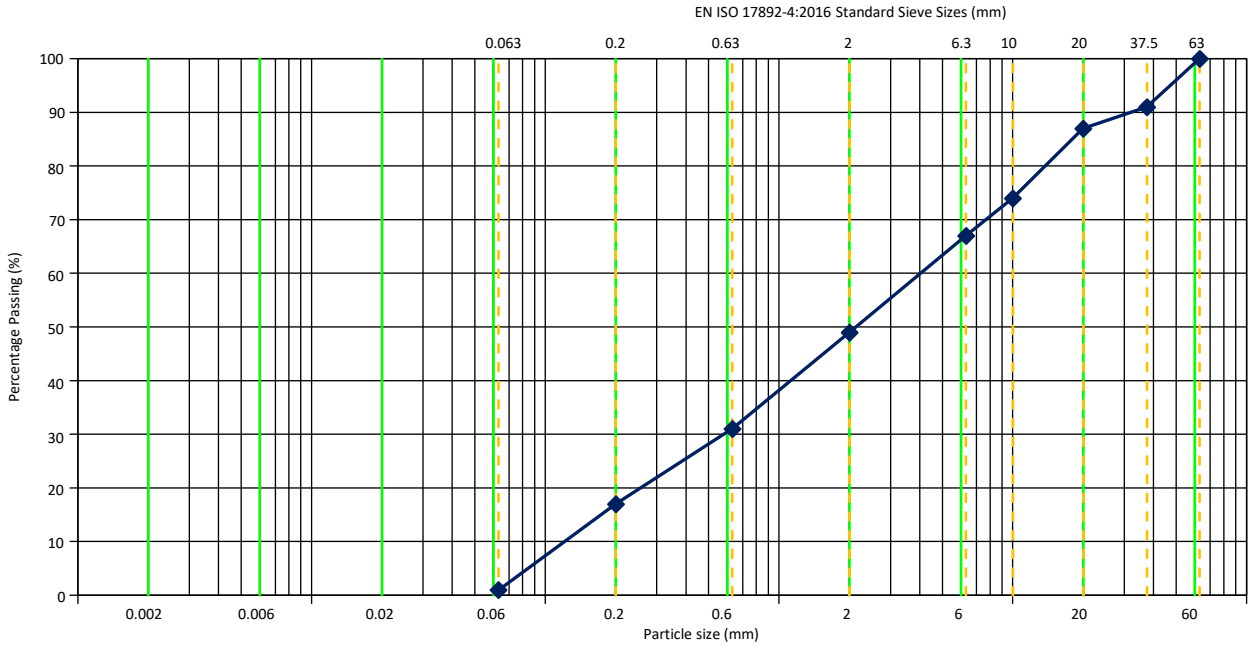
Sample Details		
	Sample Top, mBGL	2.55
	Sample Base, mBGL	3.08
	Sample Ref	10
	Sample Type	B

Uniformity Coefficient (Cu) D60 / D10	2.3
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	1.0

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet

Project Number	POR-00886	**Sample Location**	**Comments**
Project	Fishguard Linkspan	VC-005A	**Sample is a slightly gravelly silty fine to medium SAND.**
Client	Stena Line		

Particle Size Distribution



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	-
37.5	91	0.006	-
20	87	0.002	-
10	74		
6.3	67		
2	49		
0.63	31		
0.2	17		
0.063	1		

CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sample Proportions		
	Cobbles / boulders	0%
	Gravel	51%
	Sand	48%
	Total Fines	1%
	Silt	-
	Clay	-

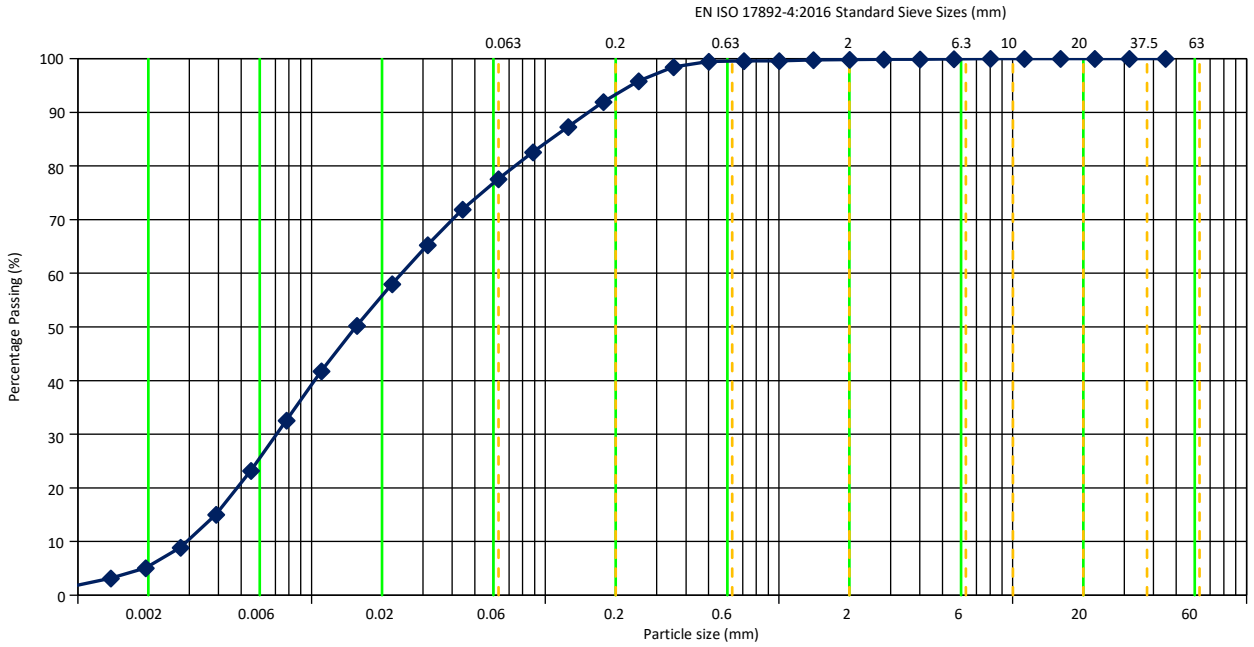
Sample Details		
	Sample Top, mBGL	3.08
	Sample Base, mBGL	3.80
	Sample Ref	11
	Sample Type	B

Uniformity Coefficient (Cu) D60 / D10	33.0
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	0.6

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet

Project Number	POR-00886	**Sample Location**	**Comments**
Project	Fishguard Linkspan	VC-005A	**Sample is a slightly silty very sandy fine to coarse GRAVEL.**
Client	Stena Line		

Particle Size Distribution



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Particle Size mm	% Passing	Particle Size mm	% Passing
45	100.0	0.04420	71.9
31.5	100.0	0.03130	65.3
22.4	100.0	0.02210	58.0
16	100.0	0.01560	50.3
11.2	100.0	0.01100	41.8
8	100.0	0.00780	32.6
5.6	99.9	0.00550	23.2
4	99.9	0.00390	15.0
2.8	99.9	0.00275	8.9
2	99.9	0.00195	5.1
1.4	99.7	0.00138	3.1
1	99.6	0.00098	1.8
0.707	99.6	0.00069	0.4
0.500	99.5	0.00049	0.0
0.354	98.4	0.00034	0.0
0.250	95.8	0.00024	0.0
0.177	91.9	0.00017	0.0
0.125	87.3	0.00012	0.0
0.088	82.6	0.00009	0.0
0.063	77.6	0.00006	0.0
		0.00004	0.0

Sample Proportions	
Cobbles / boulders	0.0%
Gravel	0.2%
Sand	22.3%
Total Fines	77.6%
Silt	67.2%
Clay	10.4%

Sample Details	
Sample Top, mBGL	0.90
Sample Base, mBGL	1.00
Sample Ref	1
Sample Type	ES

Uniformity Coefficient (Cu) D60 / D10	8.3
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	0.7

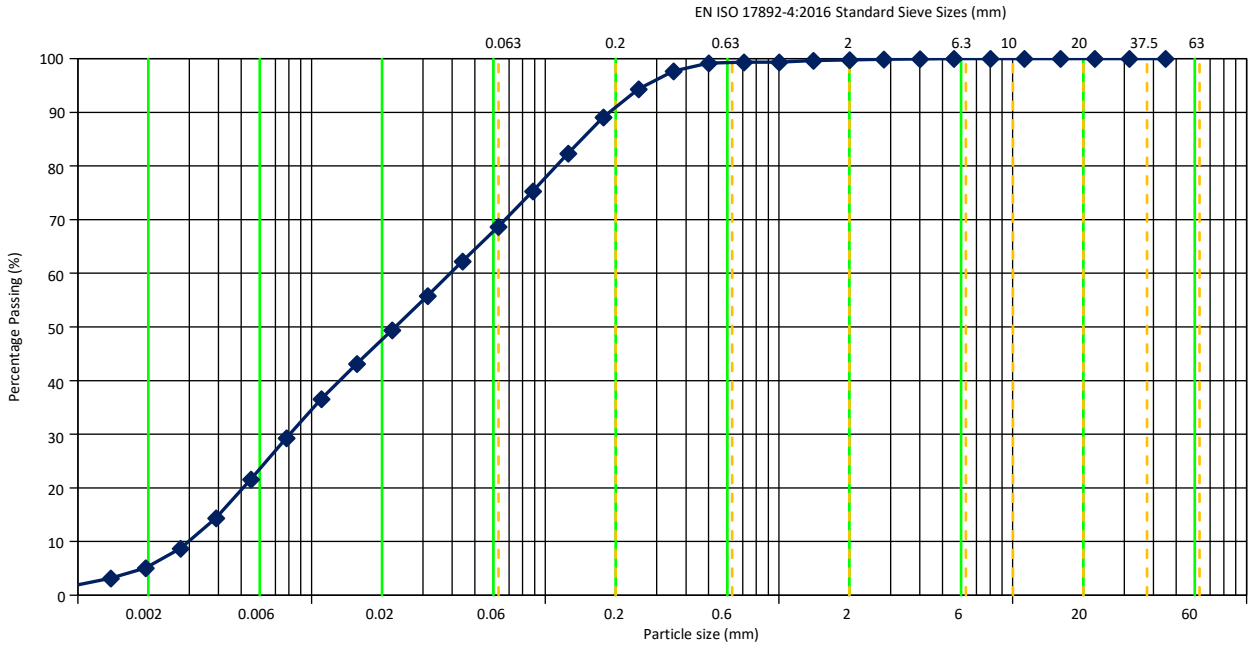
Test Method	
Wet & dry sieving	
Laser diffraction	

Project Number	POR-00886	**Sample Location**	**Comments**
Project	Fishguard Linkspan	VC-006	**Sample is a slightly sandy silty CLAY.**
Client	Stena Line		

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Particle Size Distribution

IN SITU SITE INVESTIGATION



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Particle Size mm	% Passing	Particle Size mm	% Passing
45	100.0	0.04420	62.2
31.5	100.0	0.03130	55.8
22.4	100.0	0.02210	49.4
16	100.0	0.01560	43.1
11.2	100.0	0.01100	36.6
8	100.0	0.00780	29.3
5.6	100.0	0.00550	21.6
4	99.9	0.00390	14.4
2.8	99.9	0.00275	8.7
2	99.8	0.00195	5.1
1.4	99.6	0.00138	3.2
1	99.4	0.00098	1.8
0.707	99.4	0.00069	0.5
0.500	99.2	0.00049	0.0
0.354	97.7	0.00034	0.0
0.250	94.4	0.00024	0.0
0.177	89.1	0.00017	0.0
0.125	82.4	0.00012	0.0
0.088	75.3	0.00009	0.0
0.063	68.7	0.00006	0.0
		0.00004	0.0

Sample Proportions	
Cobbles / boulders	0.0%
Gravel	0.2%
Sand	31.1%
Total Fines	68.7%
Silt	58.1%
Clay	10.5%

Sample Details	
Sample Top, mBGL	1.90
Sample Base, mBGL	2.00
Sample Ref	2
Sample Type	ES

Uniformity Coefficient (Cu) D60 / D10	13.2
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	0.5

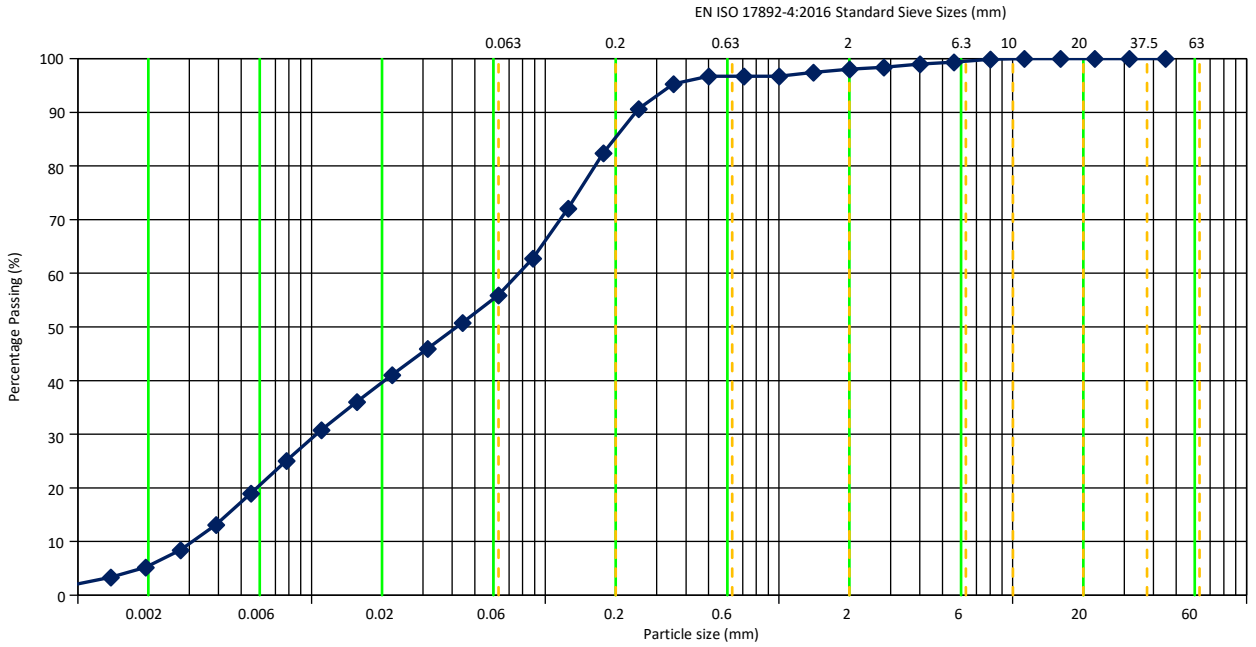
Test Method	
Wet & dry sieving	
Laser diffraction	

Project Number	POR-00886	**Sample Location**	**Comments**
Project	Fishguard Linkspan	VC-006	**Sample is a slightly sandy silty CLAY.**
Client	Stena Line		

GeoForce TECHNICAL SERVICES LTD

Particle Size Distribution

IN SITU SITE INVESTIGATION



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Particle Size mm	% Passing	Particle Size mm	% Passing
45	100.0	0.04420	50.8
31.5	100.0	0.03130	46.0
22.4	100.0	0.02210	41.0
16	100.0	0.01560	36.0
11.2	100.0	0.01100	30.8
8	99.9	0.00780	25.1
5.6	99.3	0.00550	19.0
4	99.0	0.00390	13.2
2.8	98.4	0.00275	8.4
2	98.0	0.00195	5.2
1.4	97.4	0.00138	3.4
1	96.7	0.00098	2.0
0.707	96.7	0.00069	0.6
0.500	96.7	0.00049	0.0
0.354	95.3	0.00034	0.0
0.250	90.7	0.00024	0.0
0.177	82.4	0.00017	0.0
0.125	72.1	0.00012	0.0
0.088	62.8	0.00009	0.0
0.063	55.9	0.00006	0.0
		0.00004	0.0

Sample Proportions	
Cobbles / boulders	0.0%
Gravel	2.0%
Sand	42.1%
Total Fines	55.9%
Silt	44.8%
Clay	11.1%

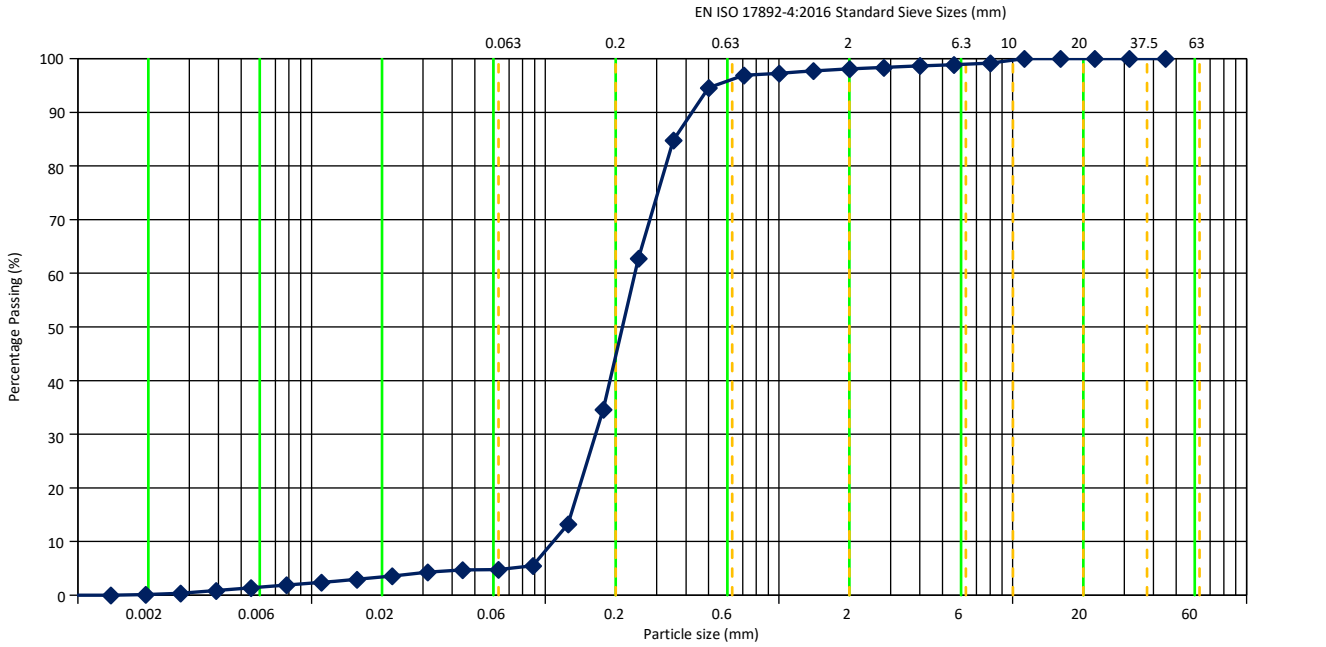
Sample Details	
Sample Top, mBGL	2.90
Sample Base, mBGL	3.00
Sample Ref	3
Sample Type	ES

Uniformity Coefficient (Cu) D60 / D10	24.9
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	0.5

Test Method	
Wet & dry sieving	
Laser diffraction	

Project Number	POR-00886	**Sample Location**	**Comments**
Project	Fishguard Linkspan	VC-006	**Sample is a slightly gravelly sandy silty CLAY.**
Client	Stena Line		

Particle Size Distribution



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Particle Size mm	% Passing	Particle Size mm	% Passing
45	100.0	0.04420	4.7
31.5	100.0	0.03130	4.3
22.4	100.0	0.02210	3.6
16	100.0	0.01560	2.9
11.2	100.0	0.01100	2.4
8	99.1	0.00780	1.9
5.6	98.9	0.00550	1.3
4	98.7	0.00390	0.8
2.8	98.3	0.00275	0.4
2	98.1	0.00195	0.1
1.4	97.7	0.00138	0.0
1	97.3	0.00098	0.0
0.707	96.9	0.00069	0.0
0.500	94.6	0.00049	0.0
0.354	84.8	0.00034	0.0
0.250	62.8	0.00024	0.0
0.177	34.6	0.00017	0.0
0.125	13.3	0.00012	0.0
0.088	5.5	0.00009	0.0
0.063	4.8	0.00006	0.0
		0.00004	0.0

Sample Proportions	
Cobbles / boulders	0.0%
Gravel	1.9%
Sand	93.4%
Total Fines	4.8%
Silt	4.7%
Clay	0.1%

Sample Details	
Sample Top, mBGL	3.90
Sample Base, mBGL	4.00
Sample Ref	4
Sample Type	ES

Uniformity Coefficient (Cu) D60 / D10	2.2
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	1.0

Test Method	
Wet & dry sieving	
Laser diffraction	

Project Number	POR-00886
Project	Fishguard Linkspan
Client	Stena Line

Sample Location

VC-006

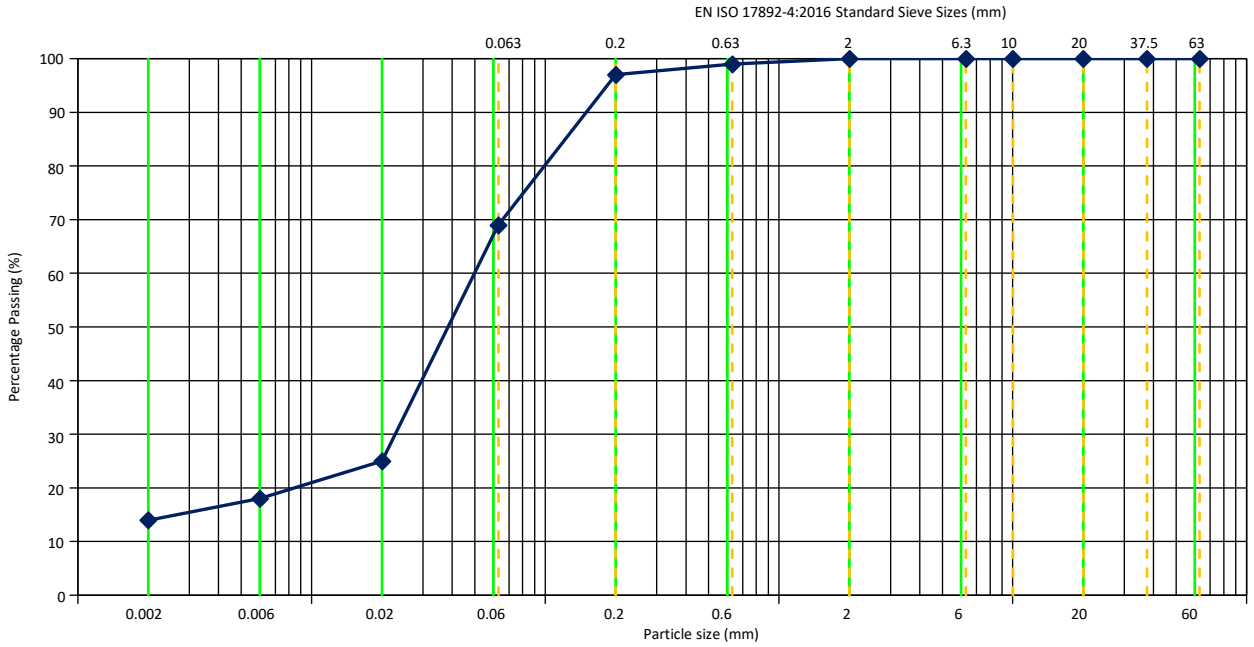
Comments

Sample is a slightly silty slightly gravelly fine to medium SAND.

GeoForce TECHNICAL SERVICES LTD

Particle Size Distribution

IN SITU SITE INVESTIGATION



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	25
37.5	100	0.006	18
20	100	0.002	14
10	100		
6.3	100		
2	100		
0.63	99		
0.2	97		
0.063	69		

Sample Proportions	Cobbles / boulders	0%
	Gravel	0%
	Sand	31%
	Total Fines	69%
	Silt	55%
	Clay	14%

Sample Details	Sample Top, mBGL	0.00
	Sample Base, mBGL	1.00
	Sample Ref	8
	Sample Type	B

Uniformity Coefficient (Cu) D60 / D10	-
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	-

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	POR-00886
Project	Fishguard Linkspan
Client	Stena Line

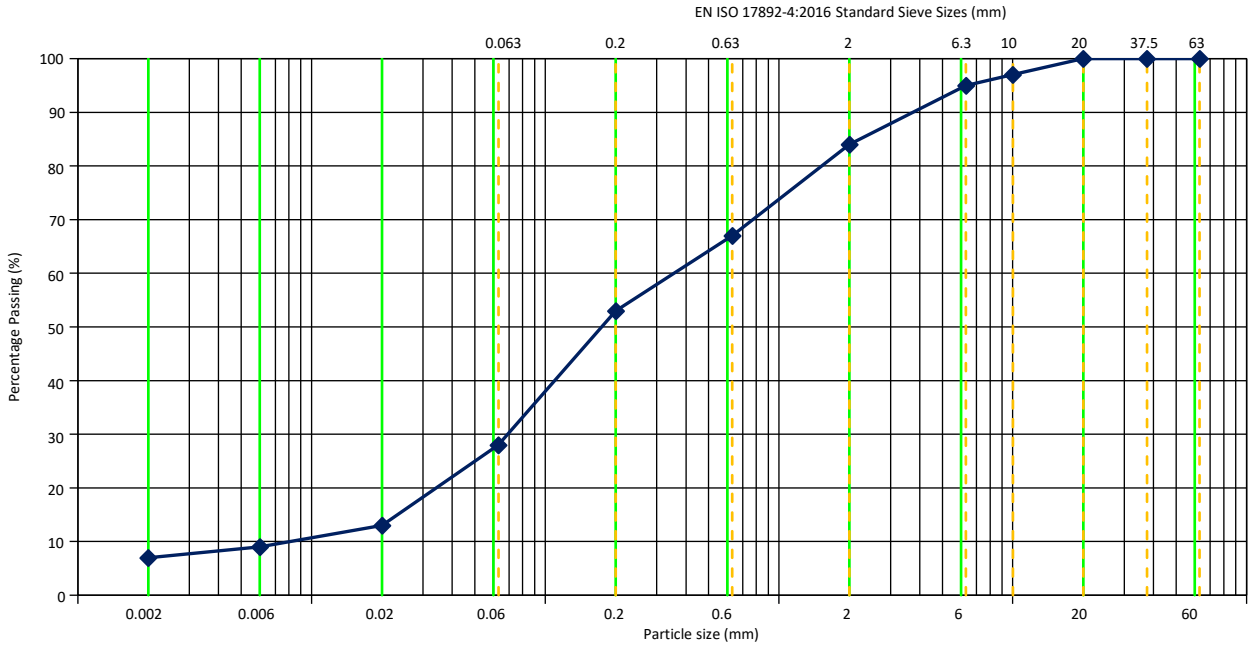
Sample Location

VC-007

Comments

Sample is a slightly sandy silty CLAY.

Particle Size Distribution



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	13
37.5	100	0.006	9
20	100	0.002	7
10	97		
6.3	95		
2	84		
0.63	67		
0.2	53		
0.063	28		

Sample Proportions		
	Cobbles / boulders	0%
	Gravel	16%
	Sand	56%
	Total Fines	28%
	Silt	21%
	Clay	7%

Sample Details		
	Sample Top, mBGL	1.94
	Sample Base, mBGL	2.76
	Sample Ref	10
	Sample Type	B

Uniformity Coefficient (Cu) D60 / D10	43.7
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	1.4

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	POR-00886
Project	Fishguard Linkspan
Client	Stena Line

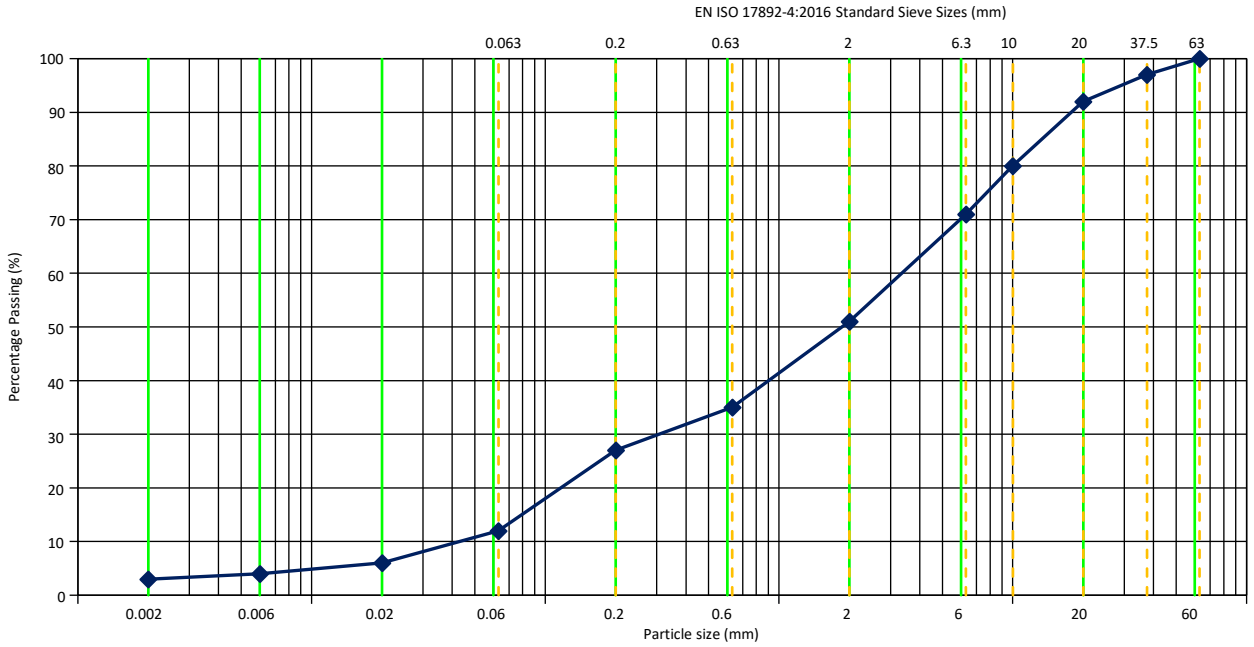
Sample Location

VC-007

Comments

Sample is a clayey gravelly very silty fine to coarse SAND.

Particle Size Distribution



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	6
37.5	97	0.006	4
20	92	0.002	3
10	80		
6.3	71		
2	51		
0.63	35		
0.2	27		
0.063	12		

Sample Proportions		
	Cobbles / boulders	0%
	Gravel	49%
	Sand	39%
	Total Fines	12%
	Silt	9%
	Clay	3%

Sample Details		
	Sample Top, mBGL	2.76
	Sample Base, mBGL	3.05
	Sample Ref	11
	Sample Type	B

Uniformity Coefficient (Cu) D60 / D10	80.9
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	0.7

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet
	Sedimentation	5.4 pipette

Project Number	POR-00886
Project	Fishguard Linkspan
Client	Stena Line

Sample Location

VC-007

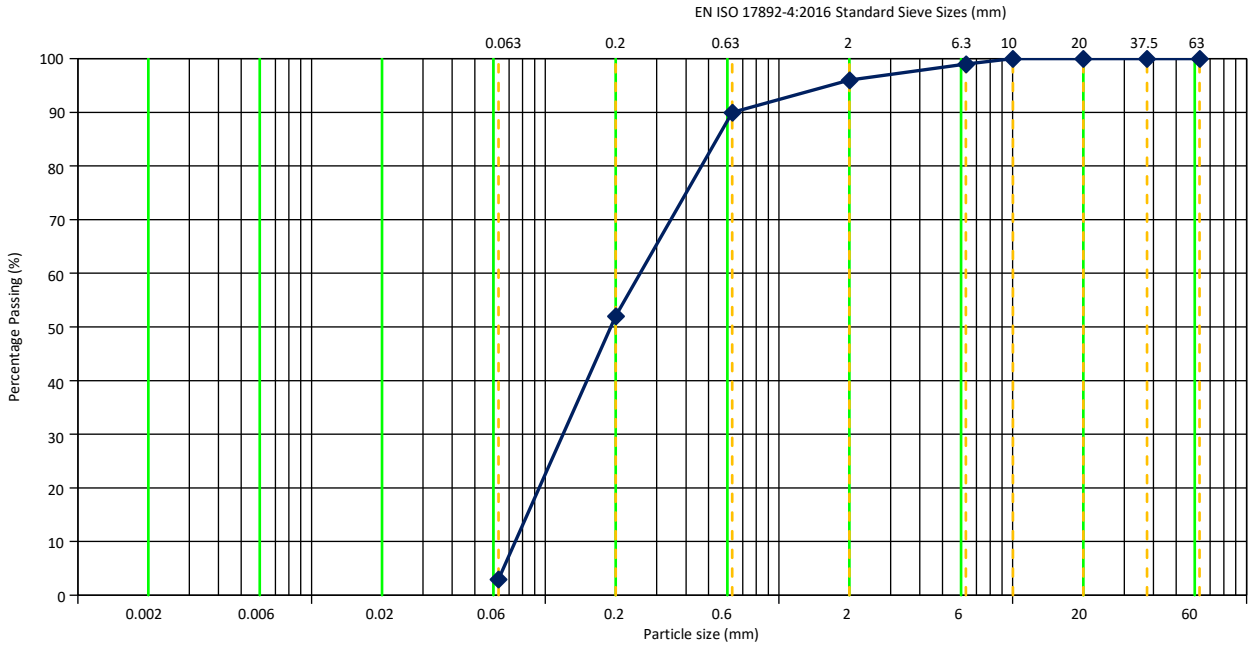
Comments

Sample is a slightly clayey silty very sandy fine to coarse GRAVEL.

GeoForce TECHNICAL SERVICES LTD

Particle Size Distribution

IN SITU SITE INVESTIGATION



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
63	100	0.02	-
37.5	100	0.006	-
20	100	0.002	-
10	100		
6.3	99		
2	96		
0.63	90		
0.2	52		
0.063	3		

Sample Proportions	Cobbles / boulders	0%
	Gravel	4%
	Sand	93%
	Total Fines	3%
	Silt	-
	Clay	-

Sample Details	Sample Top, mBGL	3.05
	Sample Base, mBGL	4.58
	Sample Ref	12
	Sample Type	B

Uniformity Coefficient (Cu) D60 / D10	3.5
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	0.8

Test Method	EN ISO 17892-4 : 2016	
	Sieving	5.2 wet

Project Number	POR-00886
Project	Fishguard Linkspan
Client	Stena Line

Sample Location

VC-007

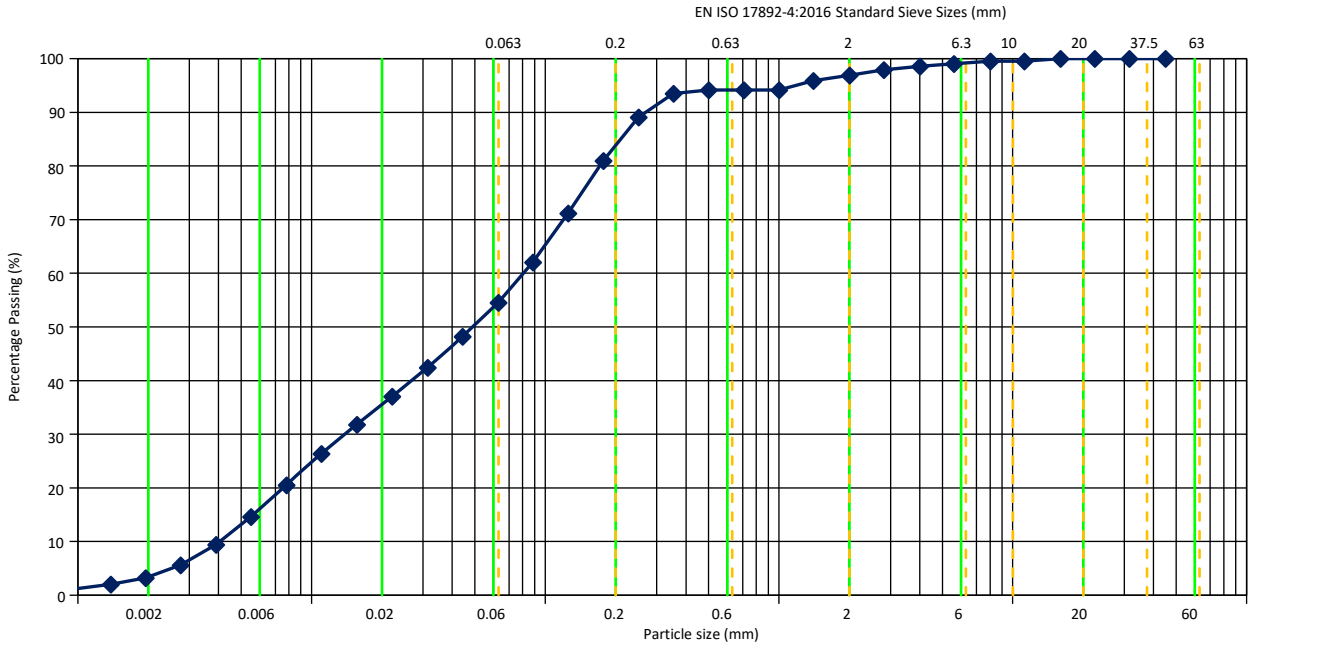
Comments

Sample is a slightly silty slightly gravelly silty fine to coarse SAND.

GeoForce TECHNICAL SERVICES LTD

Particle Size Distribution

IN SITU SITE INVESTIGATION



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Particle Size mm	% Passing	Particle Size mm	% Passing
45	100.0	0.04420	48.2
31.5	100.0	0.03130	42.4
22.4	100.0	0.02210	37.0
16	100.0	0.01560	31.8
11.2	99.5	0.01100	26.3
8	99.5	0.00780	20.5
5.6	99.1	0.00550	14.6
4	98.6	0.00390	9.4
2.8	97.9	0.00275	5.6
2	96.9	0.00195	3.2
1.4	95.9	0.00138	2.0
1	94.2	0.00098	1.2
0.707	94.2	0.00069	0.3
0.500	94.2	0.00049	0.0
0.354	93.5	0.00034	0.0
0.250	89.1	0.00024	0.0
0.177	81.0	0.00017	0.0
0.125	71.2	0.00012	0.0
0.088	62.0	0.00009	0.0
0.063	54.5	0.00006	0.0
		0.00004	0.0

Sample Proportions	
Cobbles / boulders	0.0%
Gravel	3.1%
Sand	42.4%
Total Fines	54.5%
Silt	47.8%
Clay	6.7%

Sample Details	
Sample Top, mBGL	0.90
Sample Base, mBGL	1.00
Sample Ref	1
Sample Type	ES

Uniformity Coefficient (Cu) D60 / D10	20.0
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	0.6

Test Method	
Wet & dry sieving	
Laser diffraction	

Project Number	POR-00886
Project	Fishguard Linkspan
Client	Stena Line

Sample Location

VC-008

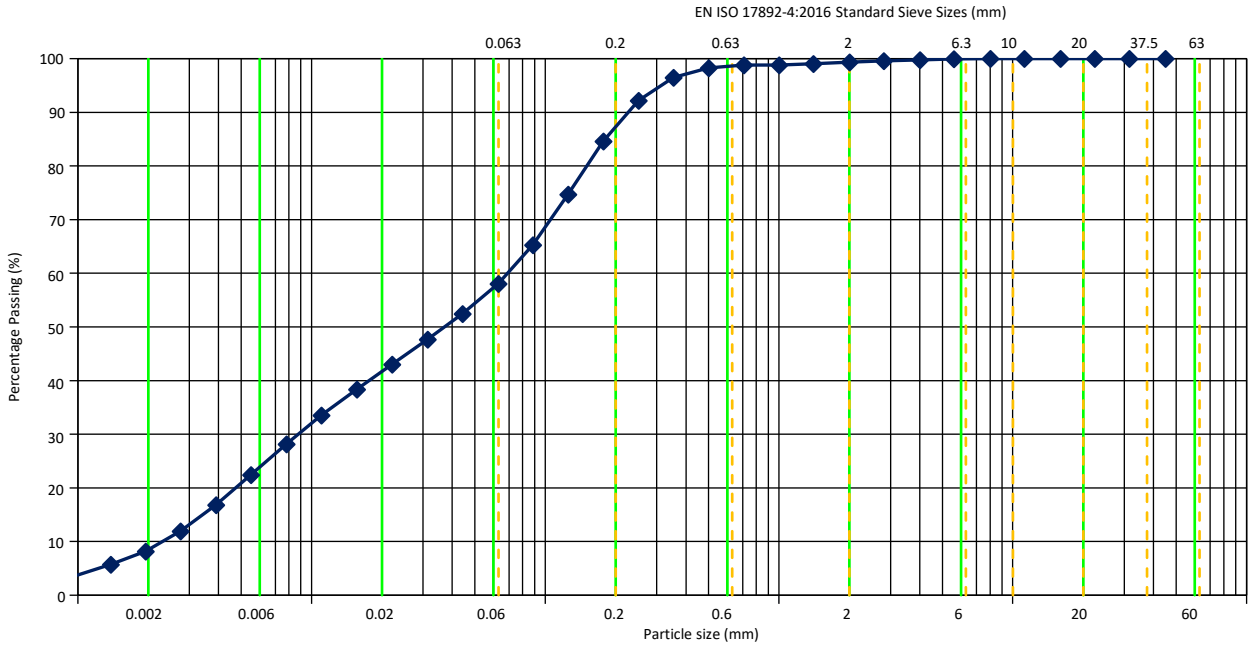
Comments

Sample is a slightly gravelly slightly clayey sandy SILT.

GeoForce TECHNICAL SERVICES LTD

Particle Size Distribution

IN SITU SITE INVESTIGATION



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Particle Size mm	% Passing	Particle Size mm	% Passing
45	100.0	0.04420	52.5
31.5	100.0	0.03130	47.7
22.4	100.0	0.02210	43.0
16	100.0	0.01560	38.4
11.2	100.0	0.01100	33.5
8	100.0	0.00780	28.2
5.6	99.9	0.00550	22.5
4	99.8	0.00390	16.8
2.8	99.6	0.00275	11.9
2	99.3	0.00195	8.2
1.4	99.0	0.00138	5.7
1	98.8	0.00098	3.6
0.707	98.8	0.00069	1.2
0.500	98.3	0.00049	0.0
0.354	96.5	0.00034	0.0
0.250	92.2	0.00024	0.0
0.177	84.6	0.00017	0.0
0.125	74.7	0.00012	0.0
0.088	65.3	0.00009	0.0
0.063	58.0	0.00006	0.0
		0.00004	0.0

Sample Proportions	
Cobbles / boulders	0.0%
Gravel	0.7%
Sand	41.3%
Total Fines	58.0%
Silt	39.3%
Clay	18.8%

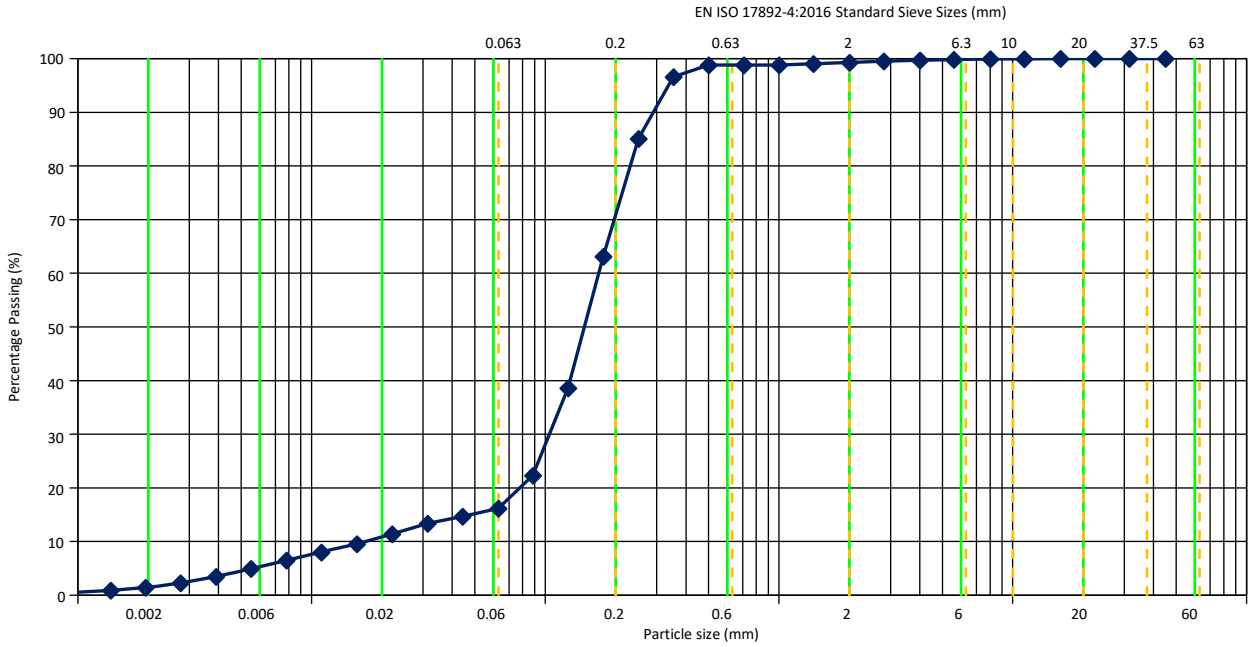
Sample Details	
Sample Top, mBGL	1.90
Sample Base, mBGL	2.00
Sample Ref	2
Sample Type	ES

Uniformity Coefficient (Cu) D60 / D10	29.8
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	0.5

Test Method	
Wet & dry sieving	
Laser diffraction	

Project Number	POR-00886	**Sample Location**	**Comments**
Project	Fishguard Linkspan	VC-008	**Sample is a slightly gravelly sandy silty CLAY.**
Client	Stena Line		

Particle Size Distribution



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Particle Size mm	% Passing	Particle Size mm	% Passing
45	100.0	0.04420	14.7
31.5	100.0	0.03130	13.4
22.4	100.0	0.02210	11.4
16	100.0	0.01560	9.6
11.2	99.9	0.01100	8.0
8	99.9	0.00780	6.5
5.6	99.8	0.00550	4.9
4	99.7	0.00390	3.5
2.8	99.5	0.00275	2.3
2	99.3	0.00195	1.4
1.4	99.0	0.00138	0.9
1	98.8	0.00098	0.5
0.707	98.8	0.00069	0.1
0.500	98.8	0.00049	0.0
0.354	96.6	0.00034	0.0
0.250	85.1	0.00024	0.0
0.177	63.1	0.00017	0.0
0.125	38.6	0.00012	0.0
0.088	22.3	0.00009	0.0
0.063	16.2	0.00006	0.0
		0.00004	0.0

Sample Proportions	
Cobbles / boulders	0.0%
Gravel	0.7%
Sand	83.1%
Total Fines	16.2%
Silt	13.2%
Clay	2.9%

Sample Details	
Sample Top, mBGL	2.90
Sample Base, mBGL	3.00
Sample Ref	3
Sample Type	ES

Uniformity Coefficient (Cu) D60 / D10	9.9
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	3.8

Test Method	
Wet & dry sieving	
Laser diffraction	

Project Number	POR-00886
Project	Fishguard Linkspan
Client	Stena Line

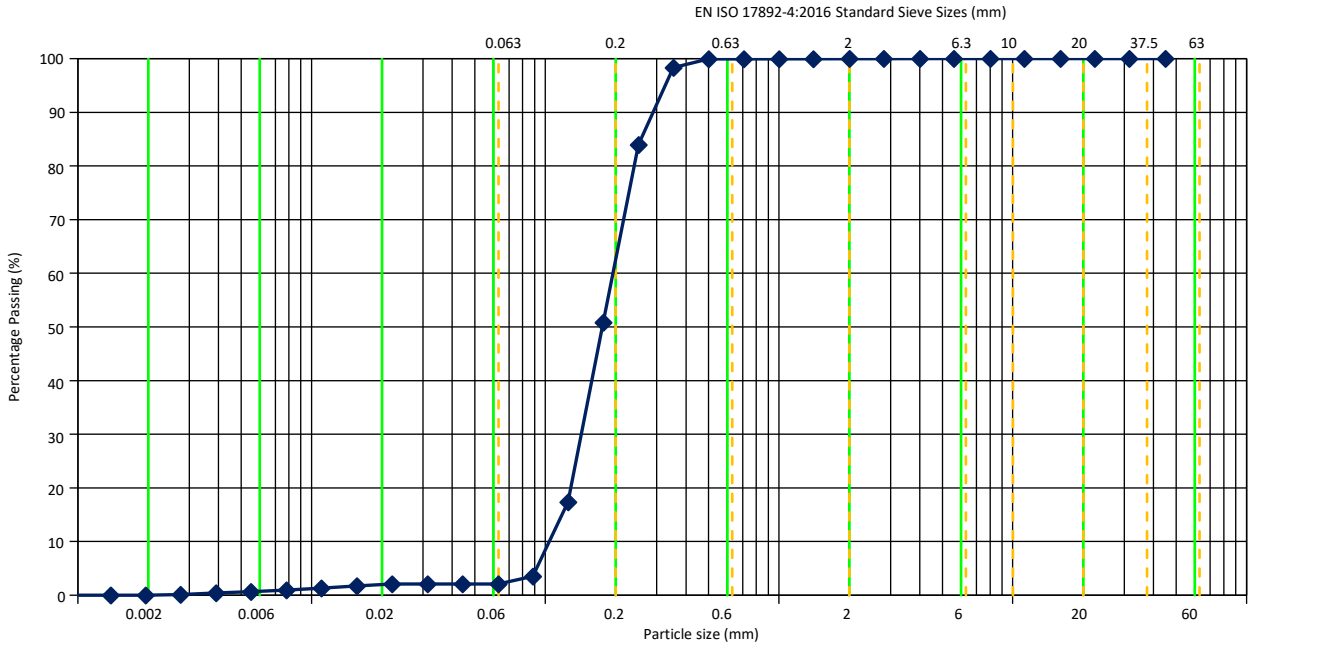
Sample Location

VC-008

Comments

Sample is a slightly clayey slightly gravelly silty fine to medium SAND.

Particle Size Distribution



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Particle Size mm	% Passing	Particle Size mm	% Passing
45	100.0	0.04420	2.1
31.5	100.0	0.03130	2.1
22.4	100.0	0.02210	2.1
16	100.0	0.01560	1.7
11.2	100.0	0.01100	1.3
8	100.0	0.00780	1.0
5.6	100.0	0.00550	0.7
4	100.0	0.00390	0.4
2.8	100.0	0.00275	0.1
2	100.0	0.00195	0.0
1.4	100.0	0.00138	0.0
1	99.9	0.00098	0.0
0.707	99.9	0.00069	0.0
0.500	99.9	0.00049	0.0
0.354	98.4	0.00034	0.0
0.250	83.9	0.00024	0.0
0.177	50.8	0.00017	0.0
0.125	17.4	0.00012	0.0
0.088	3.5	0.00009	0.0
0.063	2.1	0.00006	0.0
		0.00004	0.0

Sample Proportions	
Cobbles / boulders	0.0%
Gravel	0.0%
Sand	97.9%
Total Fines	2.1%
Silt	2.1%
Clay	0.0%

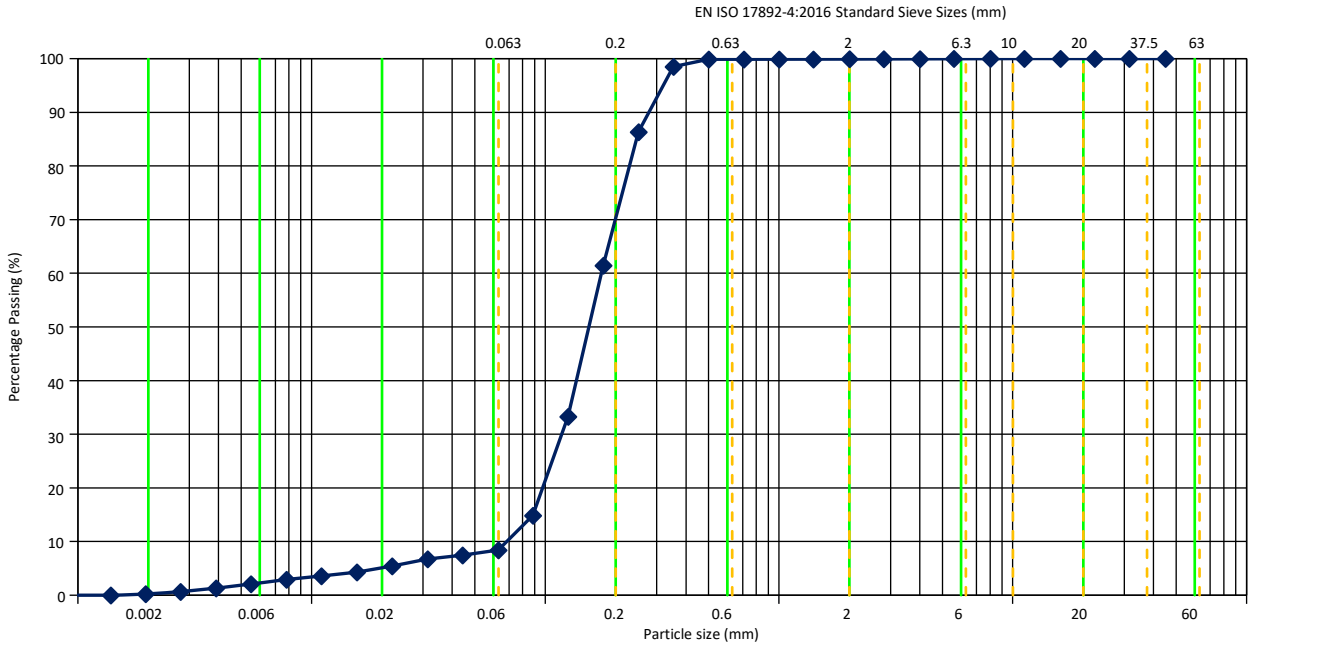
Sample Details	
Sample Top, mBGL	3.90
Sample Base, mBGL	4.00
Sample Ref	4
Sample Type	ES

Uniformity Coefficient (Cu) D60 / D10	1.9
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	1.0

Test Method	
Wet & dry sieving	
Laser diffraction	

Project Number	POR-00886	**Sample Location**	**Comments**
Project	Fishguard Linkspan	VC-008	**Sample is a slightly silty fine to medium SAND.**
Client	Stena Line		

Particle Size Distribution



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Particle Size mm	% Passing	Particle Size mm	% Passing
45	100.0	0.04420	7.5
31.5	100.0	0.03130	6.7
22.4	100.0	0.02210	5.4
16	100.0	0.01560	4.3
11.2	100.0	0.01100	3.6
8	100.0	0.00780	2.9
5.6	100.0	0.00550	2.1
4	100.0	0.00390	1.3
2.8	99.9	0.00275	0.6
2	99.9	0.00195	0.2
1.4	99.9	0.00138	0.0
1	99.9	0.00098	0.0
0.707	99.9	0.00069	0.0
0.500	99.9	0.00049	0.0
0.354	98.5	0.00034	0.0
0.250	86.3	0.00024	0.0
0.177	61.5	0.00017	0.0
0.125	33.3	0.00012	0.0
0.088	14.8	0.00009	0.0
0.063	8.4	0.00006	0.0
		0.00004	0.0

Sample Proportions	
Cobbles / boulders	0.0%
Gravel	0.1%
Sand	91.5%
Total Fines	8.4%
Silt	8.2%
Clay	0.2%

Sample Details	
Sample Top, mBGL	4.90
Sample Base, mBGL	5.00
Sample Ref	5
Sample Type	ES

Uniformity Coefficient (Cu) D60 / D10	2.5
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	1.2

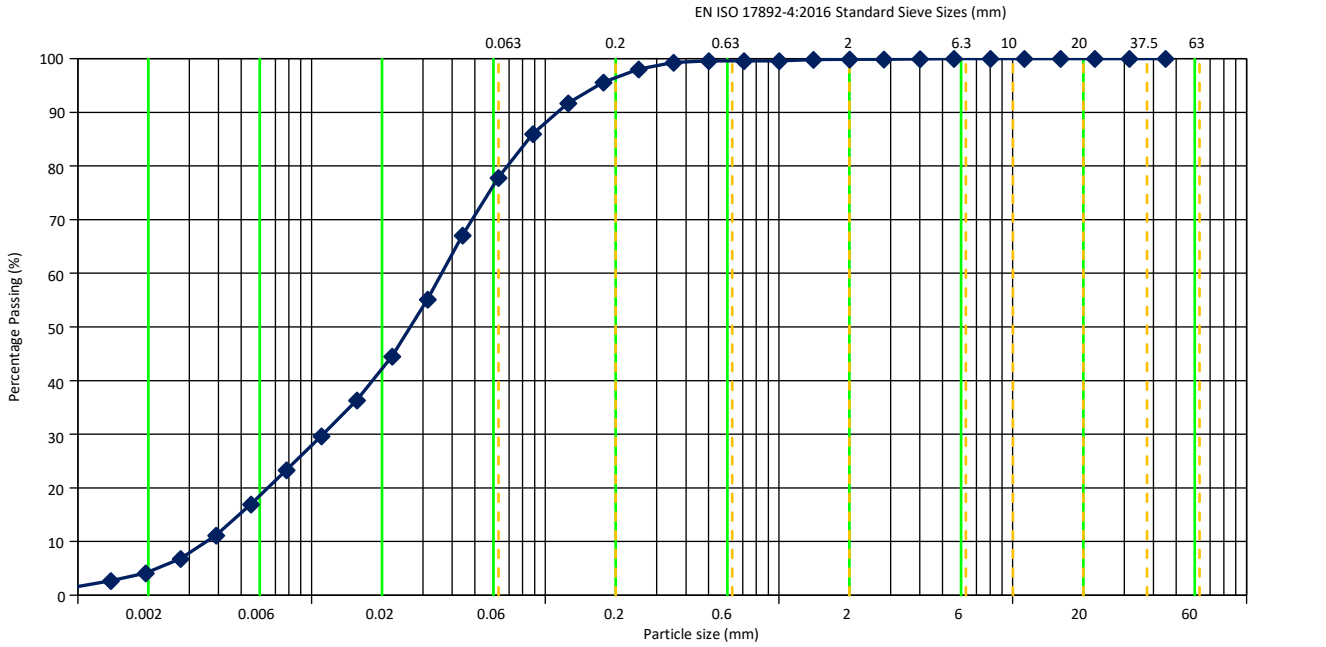
Test Method	
Wet & dry sieving	
Laser diffraction	

Project Number	POR-00886	**Sample Location**	**Comments**
Project	Fishguard Linkspan	VC-008	**Sample is a silty fine to medium SAND.**
Client	Stena Line		

GeoForce TECHNICAL SERVICES LTD

Particle Size Distribution

IN SITU SITE INVESTIGATION



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Particle Size mm	% Passing	Particle Size mm	% Passing
45	100.0	0.04420	67.1
31.5	100.0	0.03130	55.1
22.4	100.0	0.02210	44.5
16	100.0	0.01560	36.3
11.2	100.0	0.01100	29.7
8	100.0	0.00780	23.3
5.6	100.0	0.00550	16.9
4	99.9	0.00390	11.1
2.8	99.9	0.00275	6.8
2	99.9	0.00195	4.1
1.4	99.8	0.00138	2.7
1	99.6	0.00098	1.6
0.707	99.6	0.00069	0.4
0.500	99.6	0.00049	0.0
0.354	99.3	0.00034	0.0
0.250	98.0	0.00024	0.0
0.177	95.6	0.00017	0.0
0.125	91.7	0.00012	0.0
0.088	86.0	0.00009	0.0
0.063	77.8	0.00006	0.0
		0.00004	0.0

Sample Proportions	
Cobbles / boulders	0.0%
Gravel	0.1%
Sand	22.1%
Total Fines	77.8%
Silt	69.0%
Clay	8.8%

Sample Details	
Sample Top, mBGL	0.90
Sample Base, mBGL	1.00
Sample Ref	1
Sample Type	ES

Uniformity Coefficient (Cu) D60 / D10	10.2
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	1.0

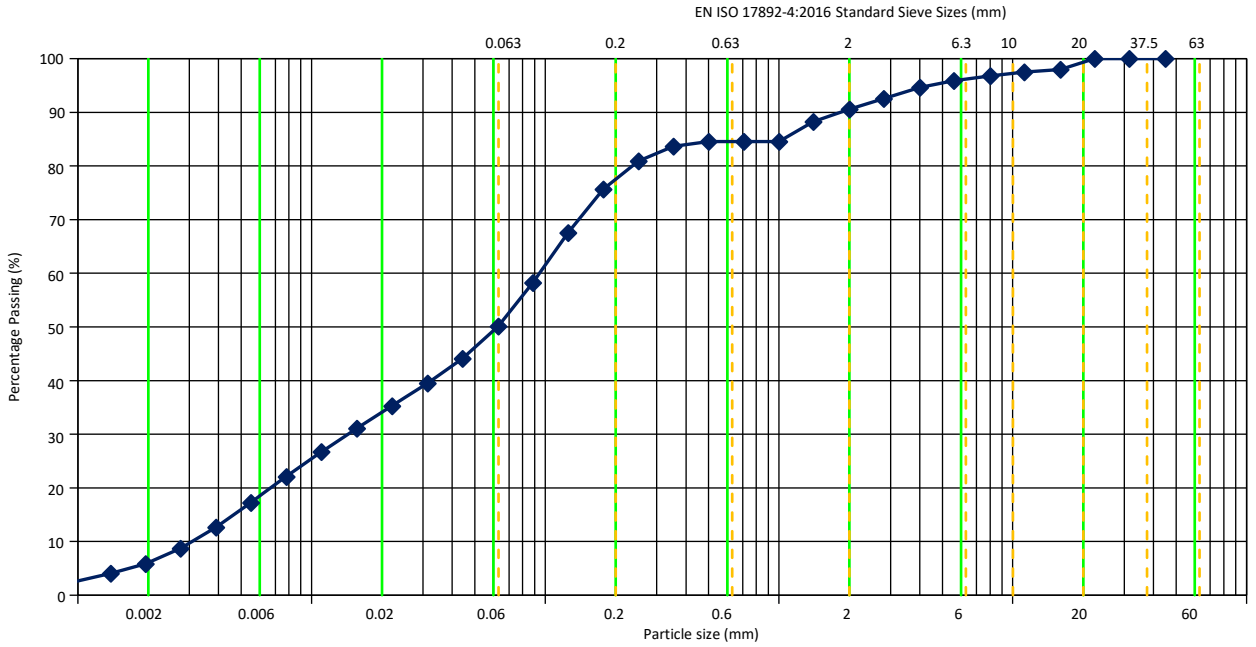
Test Method	
Wet & dry sieving	
Laser diffraction	

Project Number	POR-00886	**Sample Location**	**Comments**
Project	Fishguard Linkspan	VC-009	**Sample is a slightly clayey slightly sandy SILT.**
Client	Stena Line		

GeoForce TECHNICAL SERVICES LTD

Particle Size Distribution

IN SITU SITE INVESTIGATION



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Particle Size mm	% Passing	Particle Size mm	% Passing
45	100.0	0.04420	44.1
31.5	100.0	0.03130	39.5
22.4	100.0	0.02210	35.3
16	98.0	0.01560	31.1
11.2	97.5	0.01100	26.7
8	96.8	0.00780	22.1
5.6	95.9	0.00550	17.2
4	94.6	0.00390	12.6
2.8	92.5	0.00275	8.7
2	90.6	0.00195	5.9
1.4	88.2	0.00138	4.0
1	84.6	0.00098	2.6
0.707	84.6	0.00069	0.8
0.500	84.5	0.00049	0.0
0.354	83.7	0.00034	0.0
0.250	80.9	0.00024	0.0
0.177	75.6	0.00017	0.0
0.125	67.6	0.00012	0.0
0.088	58.2	0.00009	0.0
0.063	50.1	0.00006	0.0
		0.00004	0.0

Sample Proportions	
Cobbles / boulders	0.0%
Gravel	9.4%
Sand	40.5%
Total Fines	50.1%
Silt	36.8%
Clay	13.4%

Sample Details	
Sample Top, mBGL	1.90
Sample Base, mBGL	2.00
Sample Ref	2
Sample Type	ES

Uniformity Coefficient (Cu) D60 / D10	30.5
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	0.7

Test Method	
Wet & dry sieving	
Laser diffraction	

Project Number	POR-00886
Project	Fishguard Linkspan
Client	Stena Line

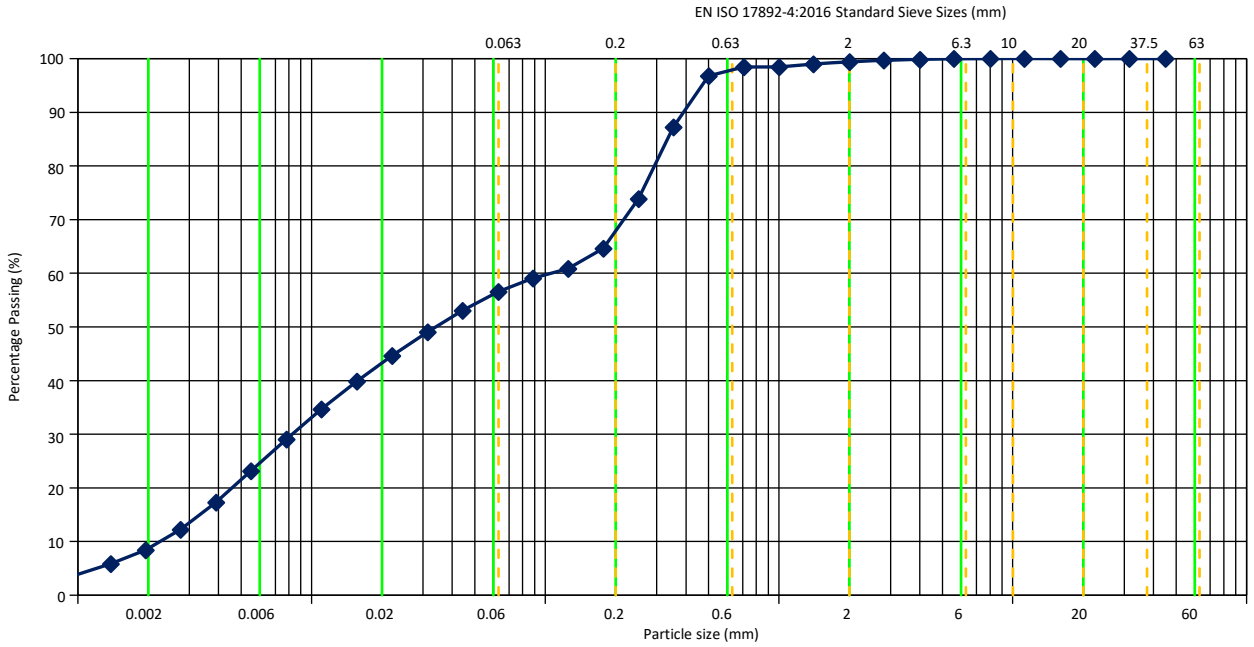
Sample Location

VC-009

Comments

Sample is a gravelly clayey very silty fine to medium SAND.

Particle Size Distribution



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Particle Size mm	% Passing	Particle Size mm	% Passing
45	100.0	0.04420	53.1
31.5	100.0	0.03130	49.1
22.4	100.0	0.02210	44.6
16	100.0	0.01560	39.9
11.2	100.0	0.01100	34.7
8	100.0	0.00780	29.1
5.6	100.0	0.00550	23.1
4	99.9	0.00390	17.3
2.8	99.7	0.00275	12.2
2	99.4	0.00195	8.4
1.4	99.0	0.00138	5.9
1	98.5	0.00098	3.7
0.707	98.5	0.00069	1.2
0.500	96.8	0.00049	0.1
0.354	87.2	0.00034	0.0
0.250	73.8	0.00024	0.0
0.177	64.6	0.00017	0.0
0.125	60.9	0.00012	0.0
0.088	59.1	0.00009	0.0
0.063	56.6	0.00006	0.0
		0.00004	0.0

Sample Proportions	
Cobbles / boulders	0.0%
Gravel	0.6%
Sand	42.8%
Total Fines	56.6%
Silt	37.3%
Clay	19.2%

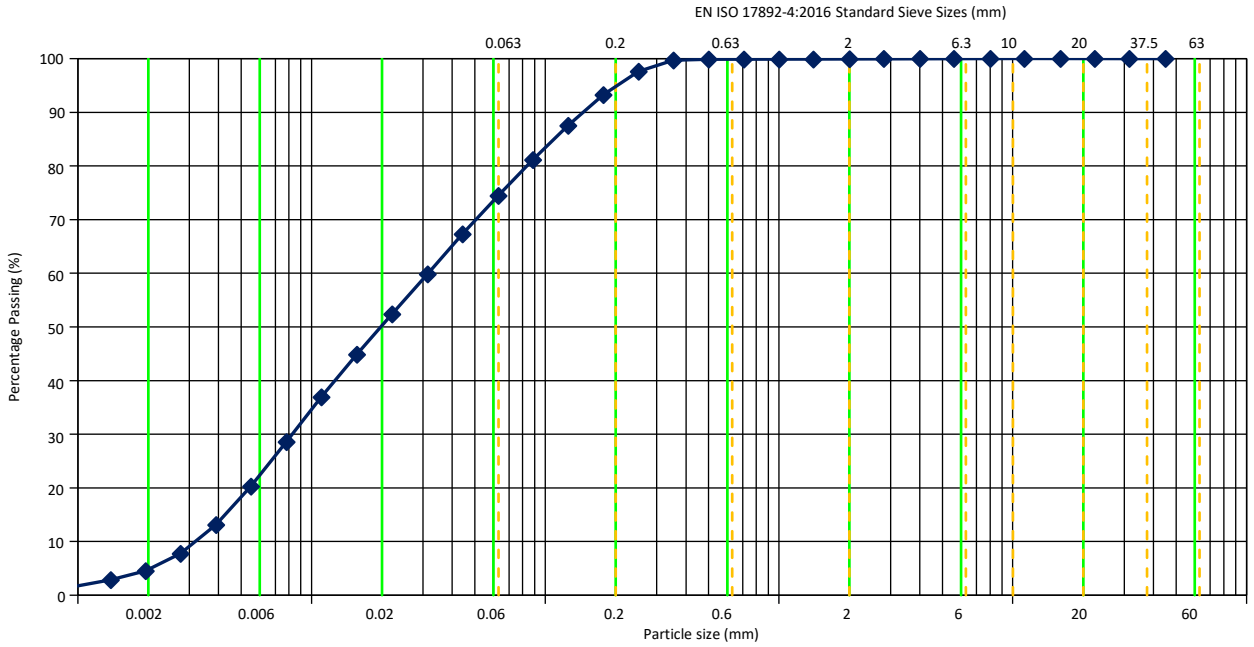
Sample Details	
Sample Top, mBGL	2.90
Sample Base, mBGL	3.00
Sample Ref	3
Sample Type	ES

Uniformity Coefficient (Cu) D60 / D10	46.8
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	0.3

Test Method	
Wet & dry sieving	
Laser diffraction	

Project Number	POR-00886	**Sample Location**	**Comments**
Project	Fishguard Linkspan	VC-009	**Sample is a slightly gravelly sandy silty CLAY.**
Client	Stena Line		

Particle Size Distribution



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Particle Size mm	% Passing	Particle Size mm	% Passing
45	100.0	0.04420	67.3
31.5	100.0	0.03130	59.9
22.4	100.0	0.02210	52.4
16	100.0	0.01560	44.9
11.2	100.0	0.01100	37.0
8	100.0	0.00780	28.6
5.6	100.0	0.00550	20.3
4	100.0	0.00390	13.1
2.8	100.0	0.00275	7.8
2	99.9	0.00195	4.5
1.4	99.9	0.00138	2.8
1	99.9	0.00098	1.6
0.707	99.9	0.00069	0.4
0.500	99.9	0.00049	0.0
0.354	99.7	0.00034	0.0
0.250	97.6	0.00024	0.0
0.177	93.2	0.00017	0.0
0.125	87.5	0.00012	0.0
0.088	81.2	0.00009	0.0
0.063	74.5	0.00006	0.0
		0.00004	0.0

Sample Proportions	
Cobbles / boulders	0.0%
Gravel	0.1%
Sand	25.5%
Total Fines	74.5%
Silt	65.1%
Clay	9.4%

Sample Details	
Sample Top, mBGL	0.90
Sample Base, mBGL	1.00
Sample Ref	1
Sample Type	ES

Uniformity Coefficient (Cu) D60 / D10	9.8
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	0.7

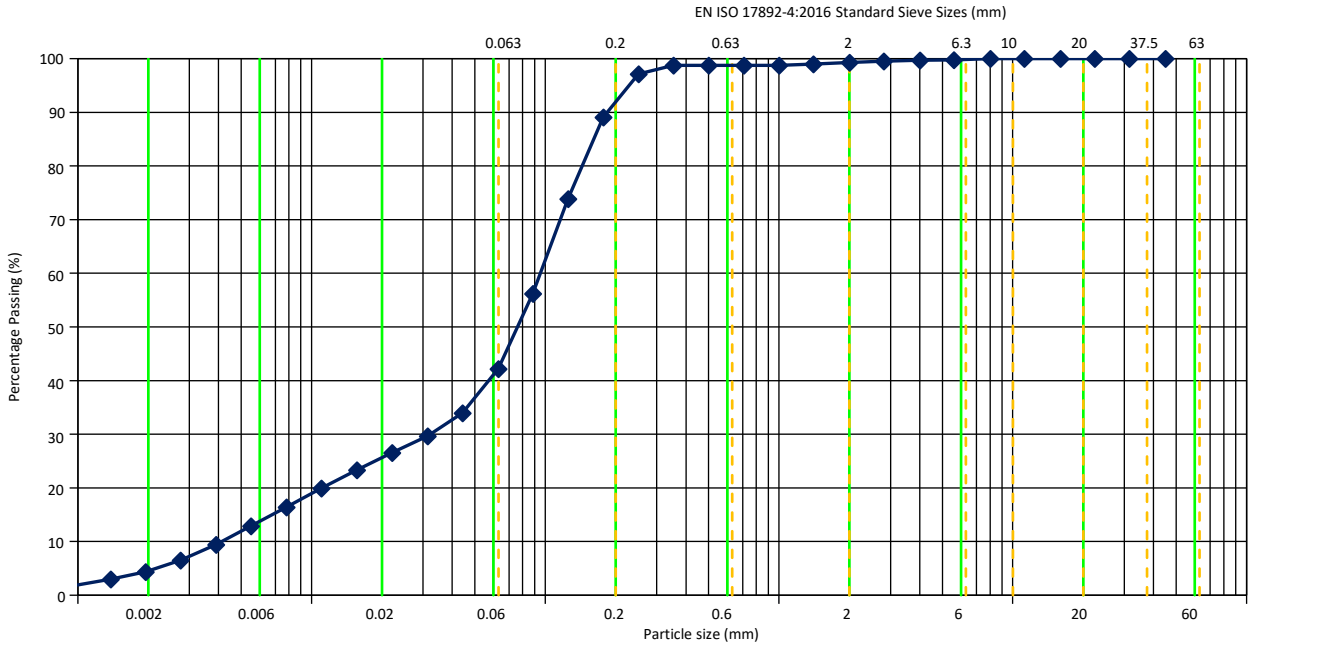
Test Method	
Wet & dry sieving	
Laser diffraction	

Project Number	POR-00886	**Sample Location**	**Comments**
Project	Fishguard Linkspan	VC-010	**Sample is a slightly sandy silty CLAY.**
Client	Stena Line		

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Particle Size Distribution

IN SITU SITE INVESTIGATION



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Particle Size mm	% Passing	Particle Size mm	% Passing
45	100.0	0.04420	33.9
31.5	100.0	0.03130	29.6
22.4	100.0	0.02210	26.5
16	100.0	0.01560	23.3
11.2	100.0	0.01100	19.9
8	100.0	0.00780	16.4
5.6	99.8	0.00550	12.9
4	99.7	0.00390	9.4
2.8	99.5	0.00275	6.5
2	99.3	0.00195	4.3
1.4	99.0	0.00138	3.0
1	98.8	0.00098	1.8
0.707	98.8	0.00069	0.5
0.500	98.8	0.00049	0.0
0.354	98.8	0.00034	0.0
0.250	97.1	0.00024	0.0
0.177	89.1	0.00017	0.0
0.125	73.9	0.00012	0.0
0.088	56.2	0.00009	0.0
0.063	42.2	0.00006	0.0
		0.00004	0.0

Sample Proportions	
Cobbles / boulders	0.0%
Gravel	0.7%
Sand	57.1%
Total Fines	42.2%
Silt	32.5%
Clay	9.7%

Sample Details	
Sample Top, mBGL	1.90
Sample Base, mBGL	2.00
Sample Ref	2
Sample Type	ES

Uniformity Coefficient (Cu) D60 / D10	23.1
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	2.6

Test Method	
Wet & dry sieving	
Laser diffraction	

Project Number	POR-00886
Project	Fishguard Linkspan
Client	Stena Line

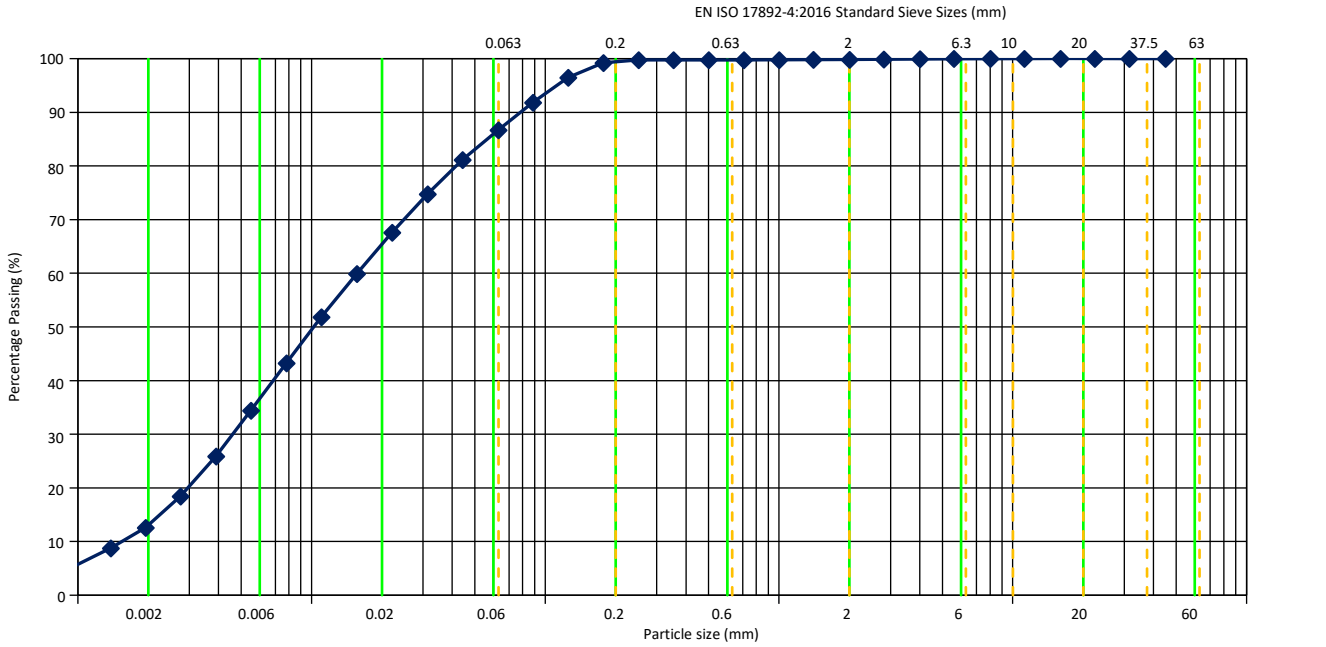
Sample Location

VC-010

Comments

Sample is a slightly gravelly clayey very silty fine SAND.

Particle Size Distribution



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Particle Size mm	% Passing	Particle Size mm	% Passing
45	100.0	0.04420	81.1
31.5	100.0	0.03130	74.8
22.4	100.0	0.02210	67.6
16	100.0	0.01560	59.9
11.2	100.0	0.01100	51.8
8	100.0	0.00780	43.3
5.6	100.0	0.00550	34.5
4	99.9	0.00390	25.9
2.8	99.9	0.00275	18.4
2	99.9	0.00195	12.6
1.4	99.8	0.00138	8.8
1	99.8	0.00098	5.6
0.707	99.8	0.00069	1.8
0.500	99.8	0.00049	0.1
0.354	99.8	0.00034	0.0
0.250	99.8	0.00024	0.0
0.177	99.3	0.00017	0.0
0.125	96.5	0.00012	0.0
0.088	91.8	0.00009	0.0
0.063	86.7	0.00006	0.0
		0.00004	0.0

Sample Proportions	
Cobbles / boulders	0.0%
Gravel	0.2%
Sand	13.2%
Total Fines	86.7%
Silt	57.9%
Clay	28.8%

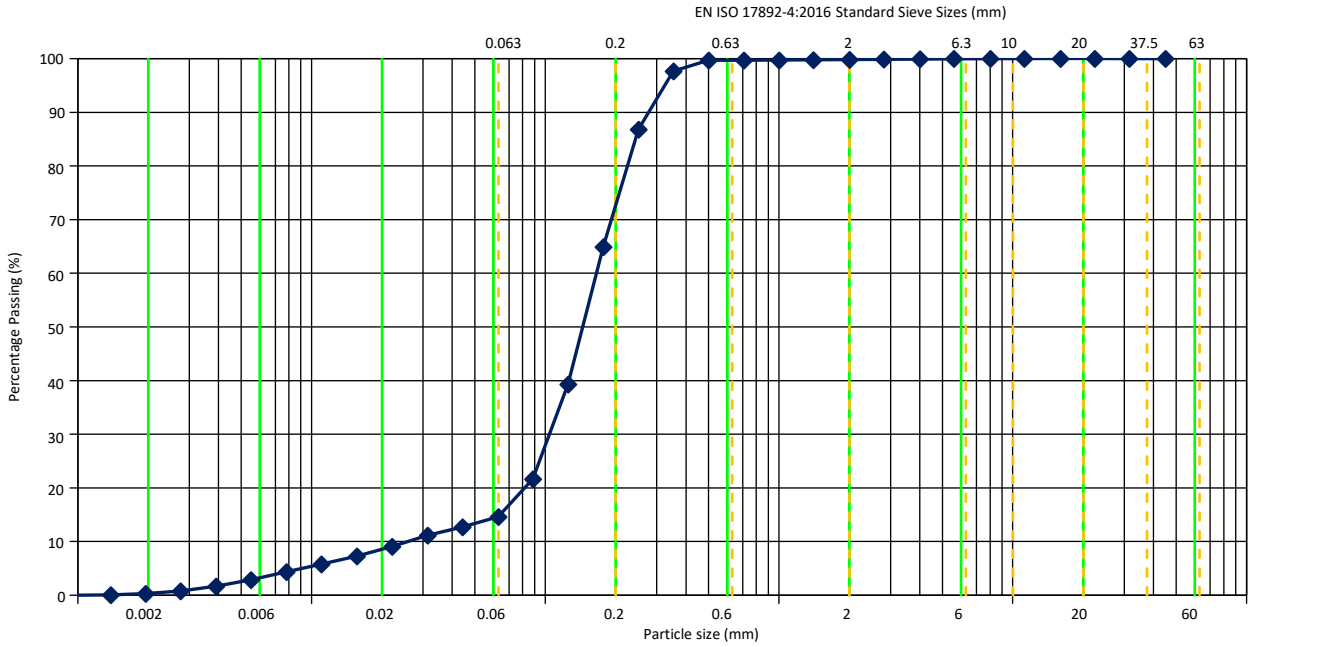
Sample Details	
Sample Top, mBGL	2.90
Sample Base, mBGL	3.00
Sample Ref	3
Sample Type	ES

Uniformity Coefficient (Cu) D60 / D10	10.0
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	0.9

Test Method	
Wet & dry sieving	
Laser diffraction	

Project Number	POR-00886	**Sample Location**	**Comments**
Project	Fishguard Linkspan	VC-010	**Sample is a slightly sandy silty CLAY.**
Client	Stena Line		

Particle Size Distribution



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Particle Size mm	% Passing	Particle Size mm	% Passing
45	100.0	0.04420	12.7
31.5	100.0	0.03130	11.2
22.4	100.0	0.02210	9.1
16	100.0	0.01560	7.3
11.2	100.0	0.01100	5.8
8	100.0	0.00780	4.4
5.6	100.0	0.00550	2.9
4	100.0	0.00390	1.6
2.8	99.9	0.00275	0.8
2	99.9	0.00195	0.3
1.4	99.8	0.00138	0.0
1	99.7	0.00098	0.0
0.707	99.7	0.00069	0.0
0.500	99.7	0.00049	0.0
0.354	97.7	0.00034	0.0
0.250	86.8	0.00024	0.0
0.177	64.9	0.00017	0.0
0.125	39.3	0.00012	0.0
0.088	21.6	0.00009	0.0
0.063	14.6	0.00006	0.0
		0.00004	0.0

Sample Proportions	
Cobbles / boulders	0.0%
Gravel	0.2%
Sand	85.2%
Total Fines	14.6%
Silt	14.3%
Clay	0.3%

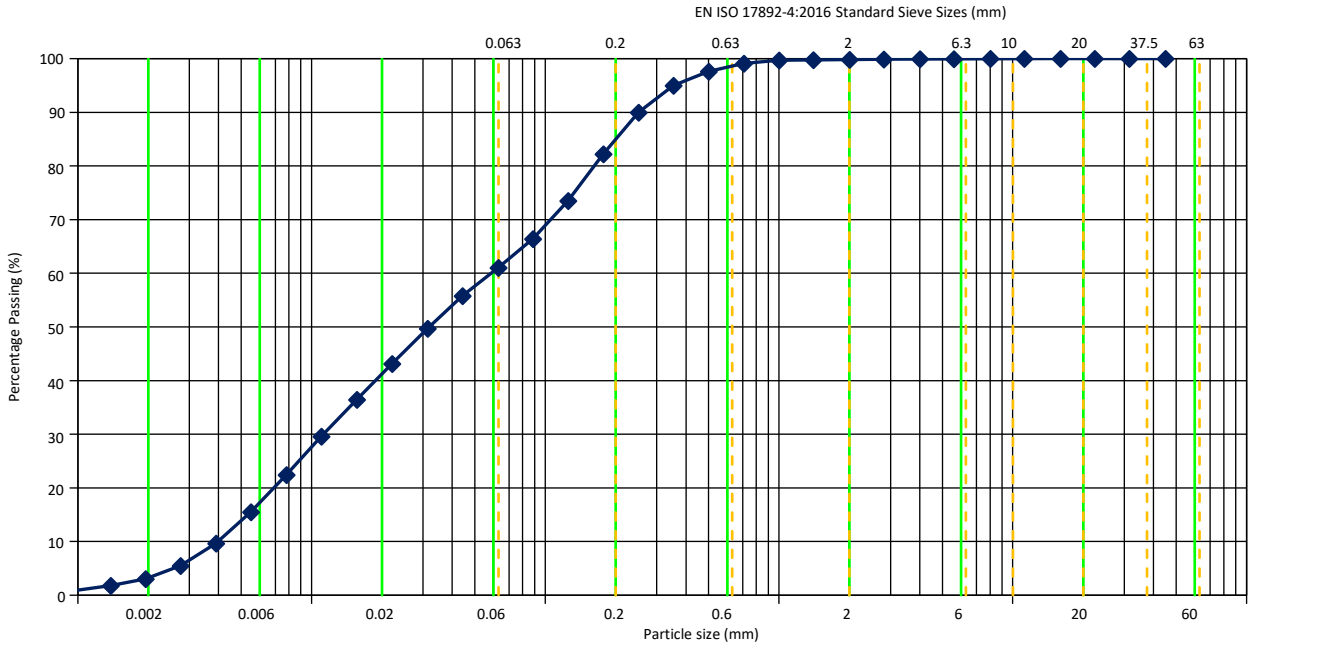
Sample Details	
Sample Top, mBGL	0.00
Sample Base, mBGL	0.20
Sample Ref	1
Sample Type	ES

Uniformity Coefficient (Cu) D60 / D10	6.4
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	2.6

Test Method	
Wet & dry sieving	
Laser diffraction	

Project Number	POR-00886	**Sample Location**	**Comments**
Project	Fishguard Linkspan	GS-003	**Sample is a silty fine to medium SAND.**
Client	Stena Line		

Particle Size Distribution



Particle Size mm	% Passing	Particle Size mm	% Passing
45	100.0	0.04420	55.8
31.5	100.0	0.03130	49.7
22.4	100.0	0.02210	43.1
16	100.0	0.01560	36.5
11.2	100.0	0.01100	29.6
8	100.0	0.00780	22.4
5.6	100.0	0.00550	15.5
4	99.9	0.00390	9.7
2.8	99.9	0.00275	5.5
2	99.8	0.00195	3.0
1.4	99.8	0.00138	1.8
1	99.7	0.00098	0.9
0.707	99.1	0.00069	0.1
0.500	97.6	0.00049	0.0
0.354	95.0	0.00034	0.0
0.250	90.0	0.00024	0.0
0.177	82.2	0.00017	0.0
0.125	73.5	0.00012	0.0
0.088	66.4	0.00009	0.0
0.063	61.0	0.00006	0.0
		0.00004	0.0

Sample Proportions	
Cobbles / boulders	0.0%
Gravel	0.2%
Sand	38.8%
Total Fines	61.0%
Silt	55.2%
Clay	5.8%

Sample Details	
Sample Top, mBGL	0.00
Sample Base, mBGL	0.20
Sample Ref	1
Sample Type	ES

Uniformity Coefficient (Cu) D60 / D10	14.9
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	0.5

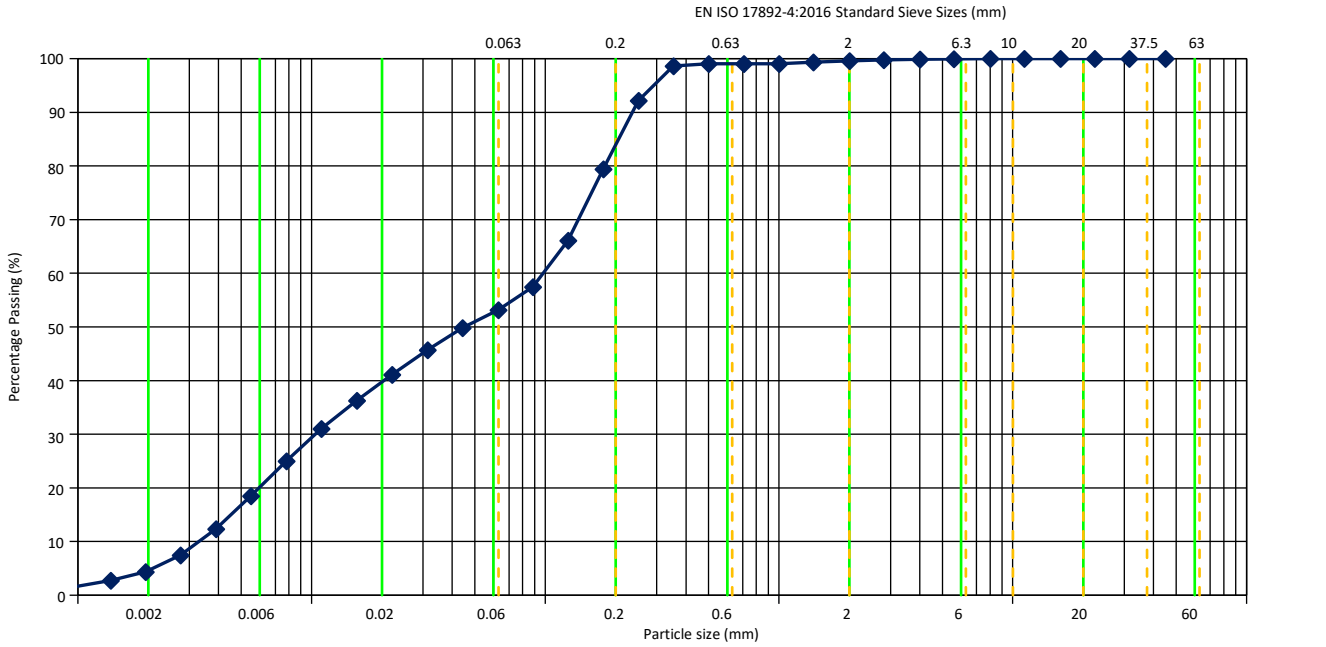
Test Method	
Wet & dry sieving	
Laser diffraction	

Project Number	POR-00886	**Sample Location**	**Comments**
Project	Fishguard Linkspan	GS-006	**Sample is a slightly clayey sandy SILT.**
Client	Stena Line		

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Particle Size Distribution

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CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Particle Size mm	% Passing	Particle Size mm	% Passing
45	100.0	0.04420	49.8
31.5	100.0	0.03130	45.7
22.4	100.0	0.02210	41.1
16	100.0	0.01560	36.3
11.2	100.0	0.01100	31.0
8	100.0	0.00780	25.0
5.6	100.0	0.00550	18.5
4	99.9	0.00390	12.3
2.8	99.7	0.00275	7.5
2	99.6	0.00195	4.4
1.4	99.3	0.00138	2.7
1	99.1	0.00098	1.6
0.707	99.1	0.00069	0.4
0.500	99.1	0.00049	0.0
0.354	98.6	0.00034	0.0
0.250	92.2	0.00024	0.0
0.177	79.4	0.00017	0.0
0.125	66.1	0.00012	0.0
0.088	57.5	0.00009	0.0
0.063	53.1	0.00006	0.0
		0.00004	0.0

Sample Proportions	
Cobbles / boulders	0.0%
Gravel	0.4%
Sand	46.4%
Total Fines	53.1%
Silt	43.8%
Clay	9.3%

Sample Details	
Sample Top, mBGL	0.00
Sample Base, mBGL	0.20
Sample Ref	1
Sample Type	ES

Uniformity Coefficient (Cu) D60 / D10	29.6
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	0.3

Test Method	
Wet & dry sieving	
Laser diffraction	

Project Number	POR-00886
Project	Fishguard Linkspan
Client	Stena Line

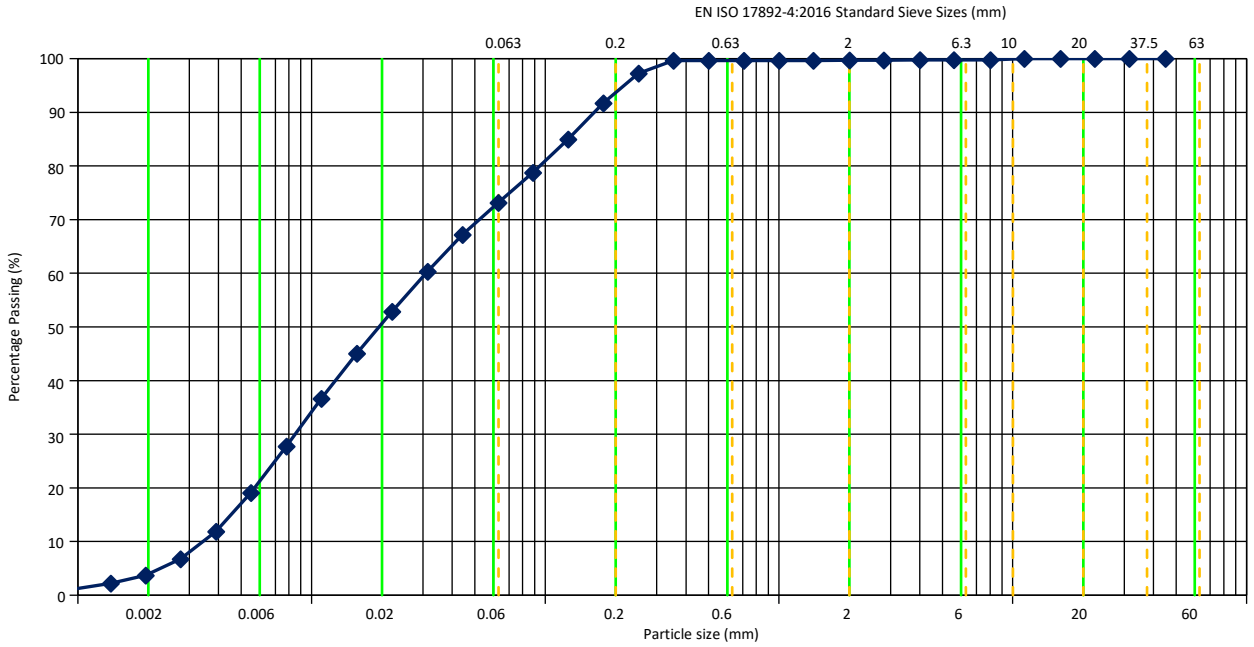
Sample Location

GS-008

Comments

Sample is a clayey very silty fine to medium SAND.

Particle Size Distribution



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Particle Size mm	% Passing	Particle Size mm	% Passing
45	100.0	0.04420	67.2
31.5	100.0	0.03130	60.3
22.4	100.0	0.02210	52.9
16	100.0	0.01560	45.1
11.2	100.0	0.01100	36.7
8	99.8	0.00780	27.7
5.6	99.8	0.00550	19.1
4	99.8	0.00390	11.9
2.8	99.7	0.00275	6.7
2	99.7	0.00195	3.7
1.4	99.7	0.00138	2.2
1	99.6	0.00098	1.2
0.707	99.6	0.00069	0.2
0.500	99.6	0.00049	0.0
0.354	99.6	0.00034	0.0
0.250	97.2	0.00024	0.0
0.177	91.7	0.00017	0.0
0.125	84.9	0.00012	0.0
0.088	78.8	0.00009	0.0
0.063	73.2	0.00006	0.0
		0.00004	0.0

Sample Proportions	
Cobbles / boulders	0.0%
Gravel	0.3%
Sand	26.5%
Total Fines	73.2%
Silt	65.9%
Clay	7.3%

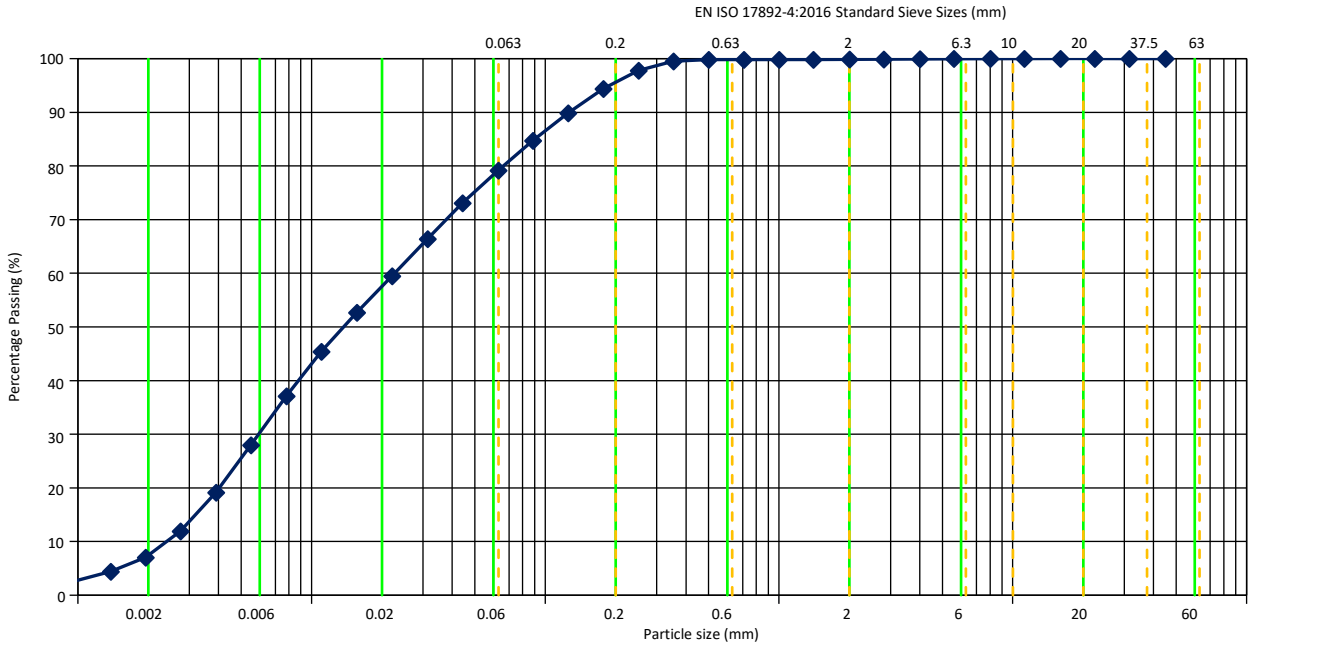
Sample Details	
Sample Top, mBGL	0.00
Sample Base, mBGL	0.20
Sample Ref	1
Sample Type	ES

Uniformity Coefficient (Cu) D60 / D10	8.9
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	0.7

Test Method	
Wet & dry sieving	
Laser diffraction	

Project Number	POR-00886	**Sample Location**	**Comments**
Project	Fishguard Linkspan	GS-009	**Sample is a slightly clayey slightly sandy SILT.**
Client	Stena Line		

Particle Size Distribution



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES
	SILT			SAND			GRAVEL			

Particle Size mm	% Passing	Particle Size mm	% Passing
45	100.0	0.04420	73.1
31.5	100.0	0.03130	66.4
22.4	100.0	0.02210	59.5
16	100.0	0.01560	52.7
11.2	100.0	0.01100	45.4
8	100.0	0.00780	37.1
5.6	100.0	0.00550	28.0
4	99.9	0.00390	19.2
2.8	99.9	0.00275	11.9
2	99.9	0.00195	7.0
1.4	99.9	0.00138	4.4
1	99.8	0.00098	2.7
0.707	99.8	0.00069	0.7
0.500	99.8	0.00049	0.0
0.354	99.5	0.00034	0.0
0.250	97.8	0.00024	0.0
0.177	94.4	0.00017	0.0
0.125	89.9	0.00012	0.0
0.088	84.7	0.00009	0.0
0.063	79.2	0.00006	0.0
		0.00004	0.0

Sample Proportions	
Cobbles / boulders	0.0%
Gravel	0.1%
Sand	20.7%
Total Fines	79.2%
Silt	64.2%
Clay	15.0%

Sample Details	
Sample Top, mBGL	0.00
Sample Base, mBGL	0.20
Sample Ref	1
Sample Type	ES

Uniformity Coefficient (Cu) D60 / D10	9.3
Coefficient of Curvature (Cc) $D30^2/(D10 \times D60)$	0.7

Test Method	
Wet & dry sieving	
Laser diffraction	

Project Number	POR-00886	**Sample Location**	**Comments**
Project	Fishguard Linkspan	GS-010	**Sample is a slightly sandy silty CLAY.**
Client	Stena Line		

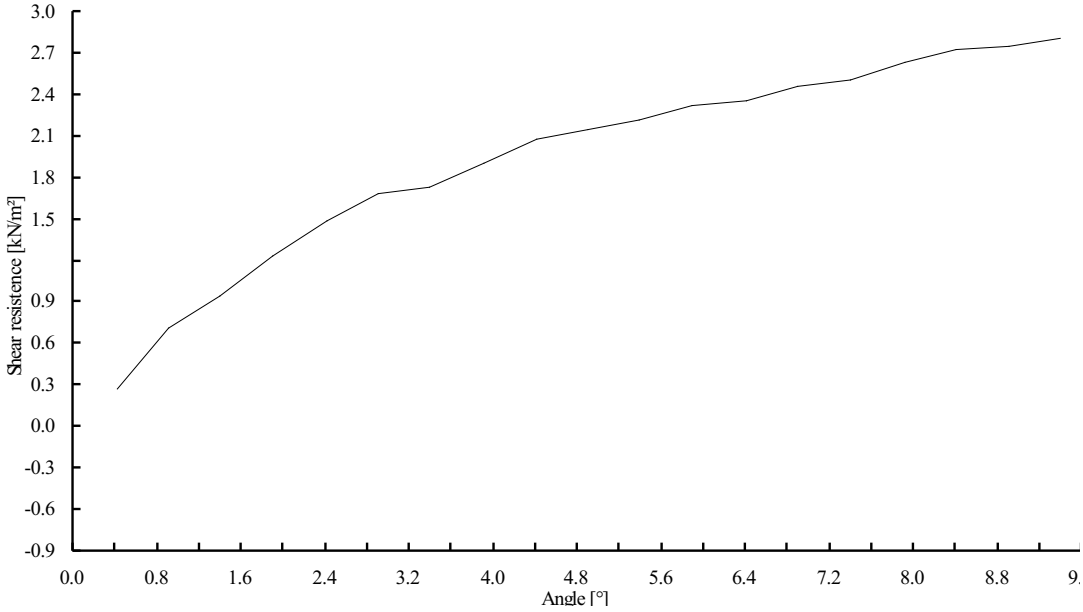
Summary of Laboratory Vane Tests

IN SITU SITE INVESTIGATION

Core ID	Depth		Motorised Lab Vane		Torvane
	Top (m)	Base (m)	Peak Shear Strength	Remoulded Shear Strength	Peak Shear Strength
			kPa		
VC-004	1.00	1.15	2.9	1.2	
VC-004	3.85	4.00	4.0	1.9	
VC-004	0.50	0.60			5
VC-004	1.50	1.60			6
VC-004	3.40	3.50			5
VC-004	4.50	4.60			9
VC-005A	0.60	0.70			6
VC-005A	1.50	1.60			7
VC-007	0.85	1.00	3.5	0.3	
VC-007	1.85	2.00	1.0	0.2	
VC-007	0.50	0.60			5
VC-007	1.50	1.60			6

Test report - First Shear Phase

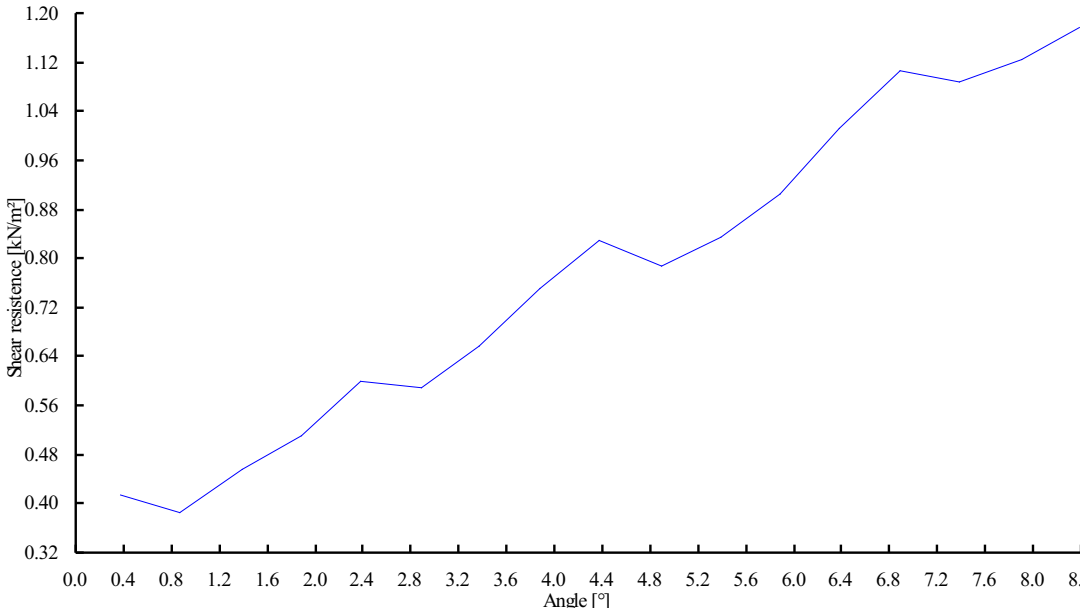
Results



Sample no.:	**LV1**	**Device:**	
Sample name:	**VC-004**	**Speed:**	**6 °/min**
Location of sampling:		**Maximum Shear Resistance:**	**2.88027 kN/m²**
Depth:	**1 m**	**Maximum Torque:**	**0.0206186 Nm**
Date:		**Time at Max:**	**98.8838 s**
		Angle at Max:	**9.54 °**

Test report - Second Shear Phase

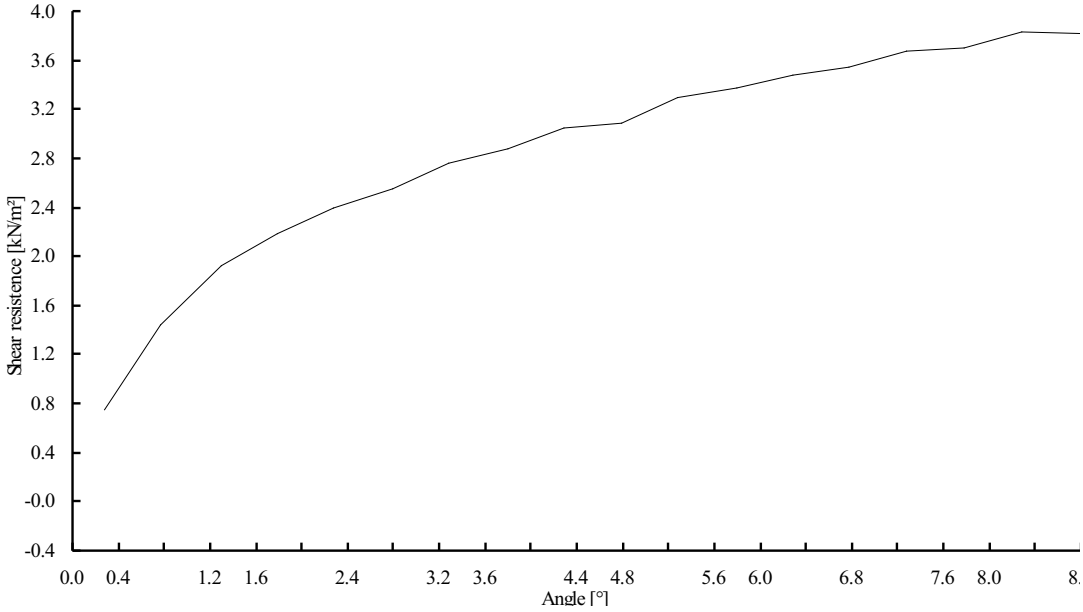
Results



Sample no.:	**LV1**	**Device:**	
Sample name:	**VC-004**	**Speed - 2nd test**	**6 °/min**
Location of sampling:		**Max Shear Resistance**	**1.21165 kN/m²**
Depth:	**1 m**	**Maximum Torque**	**0.00867372 Nm**
Date:		**Time at Max**	**385.244 s**
		Angle at Max	**8.496 °**

Test report - First Shear Phase

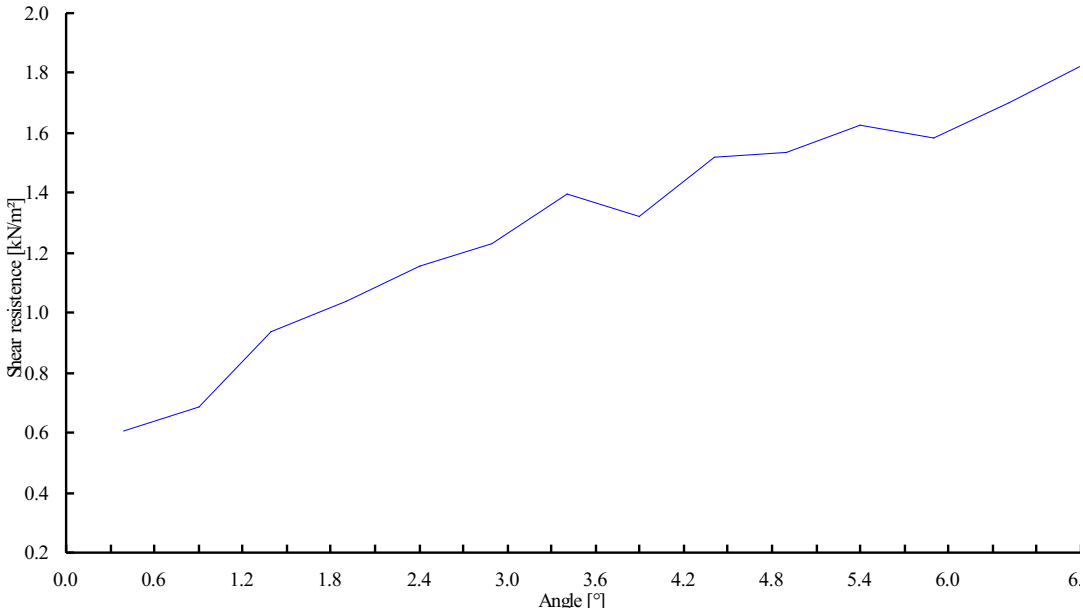
Results



Sample no.:	**LV2**	**Device:**	
Sample name:	**VC-004**	**Speed:**	**6 °/min**
Location of sampling:		**Maximum Shear Resistance:**	**3.95874 kN/m²**
Depth:	**3.85 m**	**Maximum Torque:**	**0.028339 Nm**
Date:		**Time at Max:**	**95.2108 s**
		Angle at Max:	**9.066 °**

Test report - Second Shear Phase

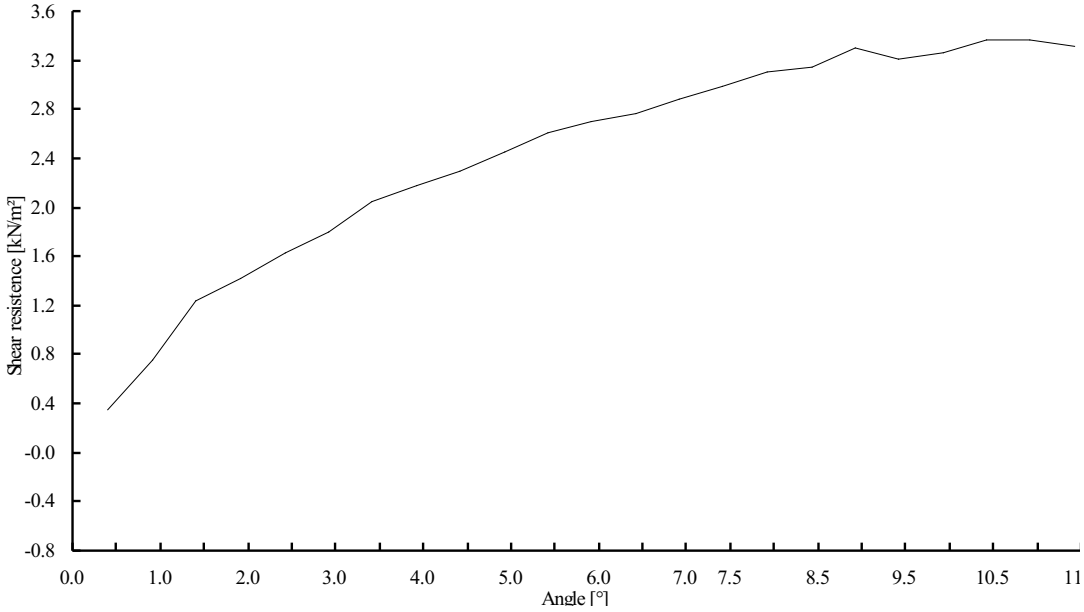
Results



Sample no.:	**LV2**	**Device:**	
Sample name:	**VC-004**	**Speed - 2nd test**	**6 °/min**
Location of sampling:		**Max Shear Resistance**	**1.94944 kN/m²**
Depth:	**3.85 m**	**Maximum Torque**	**0.0139552 Nm**
Date:		**Time at Max**	**335.792 s**
		Angle at Max	**6.757 °**

Test report - First Shear Phase

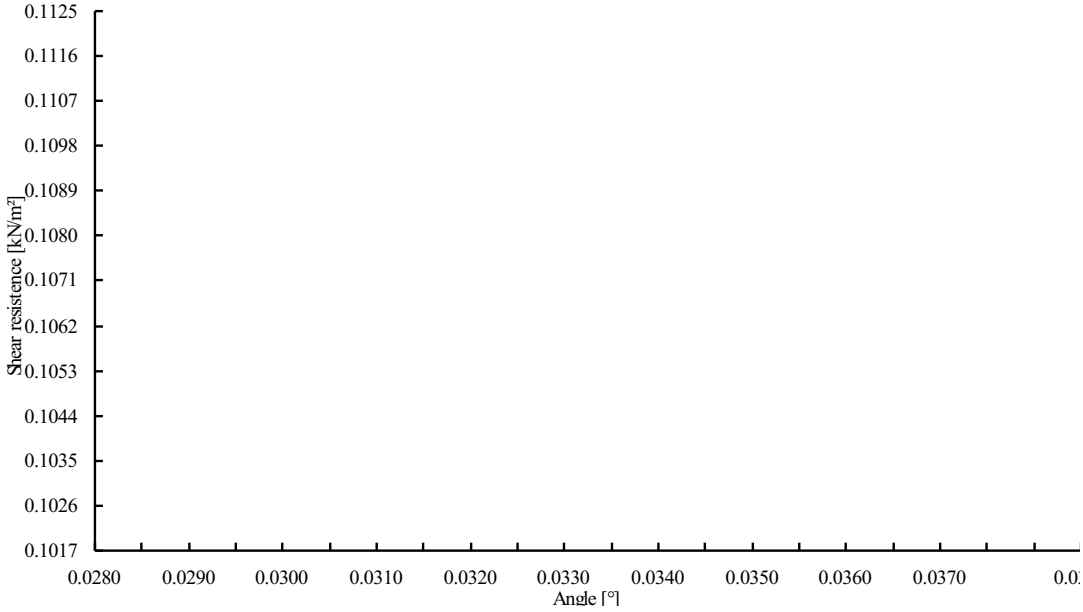
Results



Sample no.:	**LV1**	**Device:**	
Sample name:	**VC-007**	**Speed:**	**6 °/min**
Location of sampling:		**Maximum Shear Resistance:**	**3.50431 kN/m²**
Depth:	**0.85 m**	**Maximum Torque:**	**0.0250859 Nm**
Date:		**Time at Max:**	**113.704 s**
		Angle at Max:	**11.044 °**

Test report - Second Shear Phase

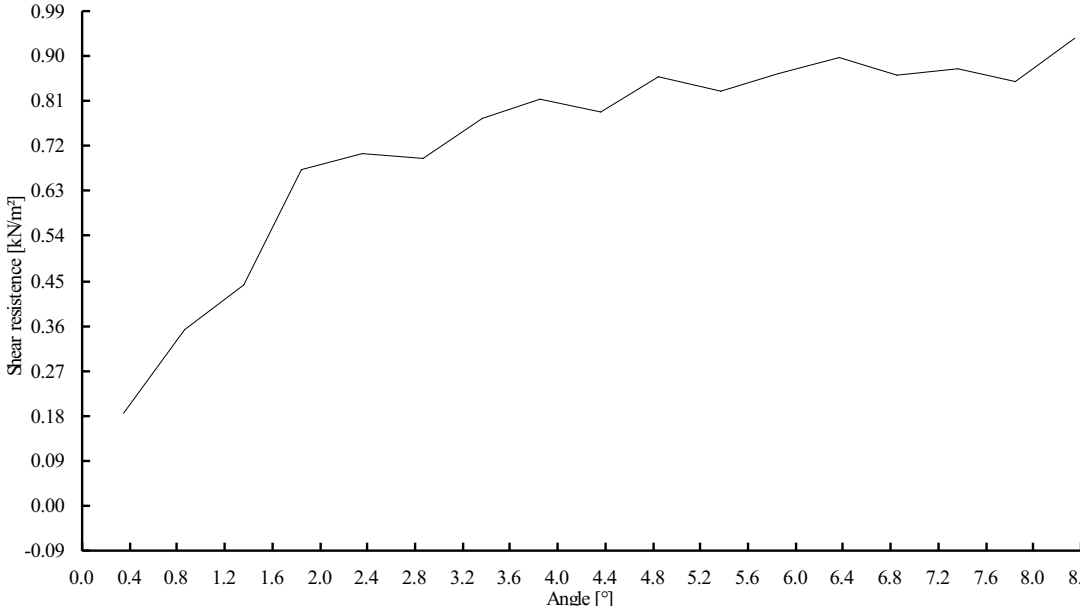
Results



Sample no.:	**LV1**	**Device:**	
Sample name:	**VC-007**	**Speed - 2nd test**	**6 °/min**
Location of sampling:		**Max Shear Resistance**	**0.284596 kN/m²**
Depth:	**0.85 m**	**Maximum Torque**	**0.0020373 Nm**
Date:		**Time at Max**	**271.095 s**
		Angle at Max	**0.281 °**

Test report - First Shear Phase

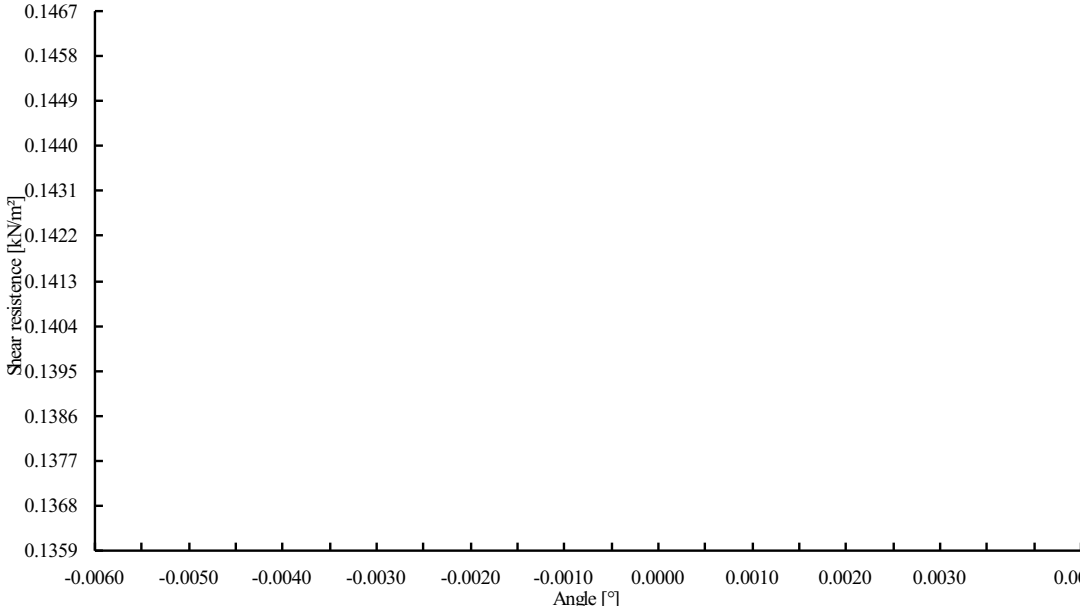
Results



Sample no.:	**LV2**	**Device:**	
Sample name:	**VC-007**	**Speed:**	**6 °/min**
Location of sampling:		**Maximum Shear Resistance:**	**0.996564 kN/m²**
Depth:	**1.85 m**	**Maximum Torque:**	**0.00713398 Nm**
Date:		**Time at Max:**	**65.1415 s**
		Angle at Max:	**6.127 °**

Test report - Second Shear Phase

Results



Sample no.:	**LV2**	**Device:**	
Sample name:	**VC-007**	**Speed - 2nd test**	**6 °/min**
Location of sampling:		**Max Shear Resistance**	**0.198827 kN/m²**
Depth:	**1.85 m**	**Maximum Torque**	**0.00142332 Nm**
Date:		**Time at Max**	**249.981 s**
		Angle at Max	**0.096 °**

Summary of Shearbox Tests

IN SITU SITE INVESTIGATION

Core ID	Depth		Moisture Content	Bulk Density	Dry Density	Particle Density	Peak		Residual	
	Top (m)	Base (m)	%	Mg/m^3			Friction angle, θ	Cohesion c' (kPa)	Friction angle, θ	Cohesion c' (kPa)
VC-001	0.89	2.00	32	1.72	1.29	2.65	35.0	0.0	32.5	0.0
VC-001	4.50	5.20	27	1.74	1.37	2.65	34.5	2.0	33.0	0.0
VC-002	2.00	3.35	27	1.74	1.38	2.65	35.5	2.0	33.5	0.0
VC-002	4.92	5.22	21	1.98	1.64	2.65	38.5	0.0	35.5	0.0
VC-005A	3.08	3.80	22	1.89	1.55	2.65	39.0	0.0	36.0	0.0

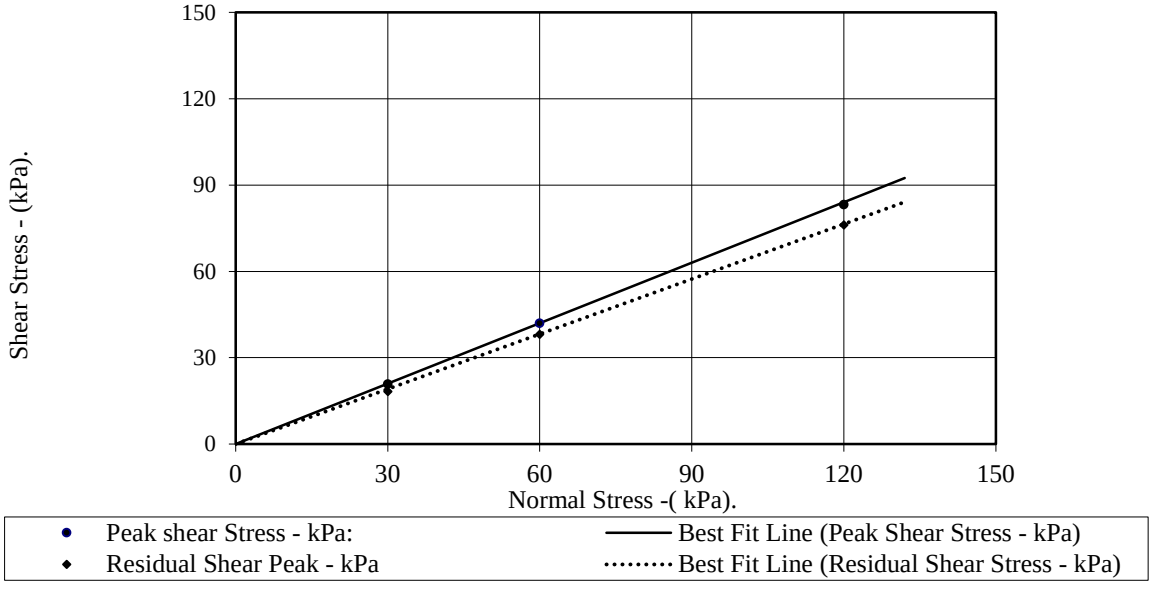
Determination of shear strength by direct shear (shearbox methods)

BS 1377 - Part 2 : 2022 : Clause 25.2 in accordance with BS EN ISO 17892 - 10 : 2018

Hole Number:	**VC-001**		Top Depth	**0.89**	
Sample Number:	**7**		Base Depth	**2.00**	
Sample Conditions:	Submerged		Sample Type	**B**	
Particle Density - Mg/m3:	2.65	Assumed	**Remarks:**		
Specimen Preparation	Material tested passing 2mm sieve Remoulded using hand tamped effort				
Sample Description:	**See summary of soil descriptions**				

STAGE	**1**	**2**	**3**
Initial Conditions			
Height - mm:	24.98	24.98	24.98
Length - mm:	60.00	60.00	60.00
Water Content - %:	32.5	32.5	32.5
Bulk Density - Mg/m3:	1.72	1.72	1.72
Dry Density - Mg/m3:	1.29	1.29	1.29
Voids Ratio:	1.046	1.046	1.046
Degree of saturation:	82.2	82.2	82.2
Normal Pressure- kPa	30	60	120
Consolidation Stage			
Consolidated Height - mm:	24.65	24.41	24.11
Peak Shear			
Rate of Strain - mm/min	0.30	0.30	0.30
Displacement at peak shear stress - mm	3.00	3.60	3.30
Peak shear Stress - kPa:	21	42	83
Residual Shear			
Rate of Strain - mm/min	0.60	0.60	0.60
Final displacement at residual shear stress - mm	30.20	30.20	30.20
Residual shear Stress - kPa:	18	38	76
Final Consolidation Conditions			
Water Content - %:	32.2	33.7	30.2
Bulk Density - Mg/m3:	1.74	1.76	1.78
Dry Density - Mg/m3:	1.31	1.31	1.36
Peak Shear			
Angle of Shearing Resistance:(θ)	35		
Effective Cohesion - kPa:	0		
Residual Shear			
Angle of Shearing Resistance:(θ)	33		
Effective Cohesion - kPa:	0		

FAILURE CONDITIONS

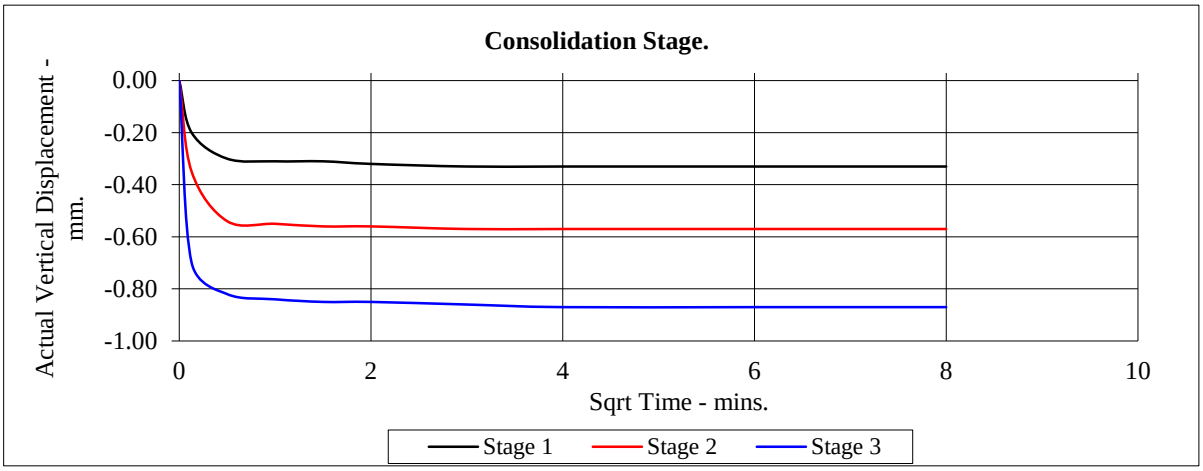


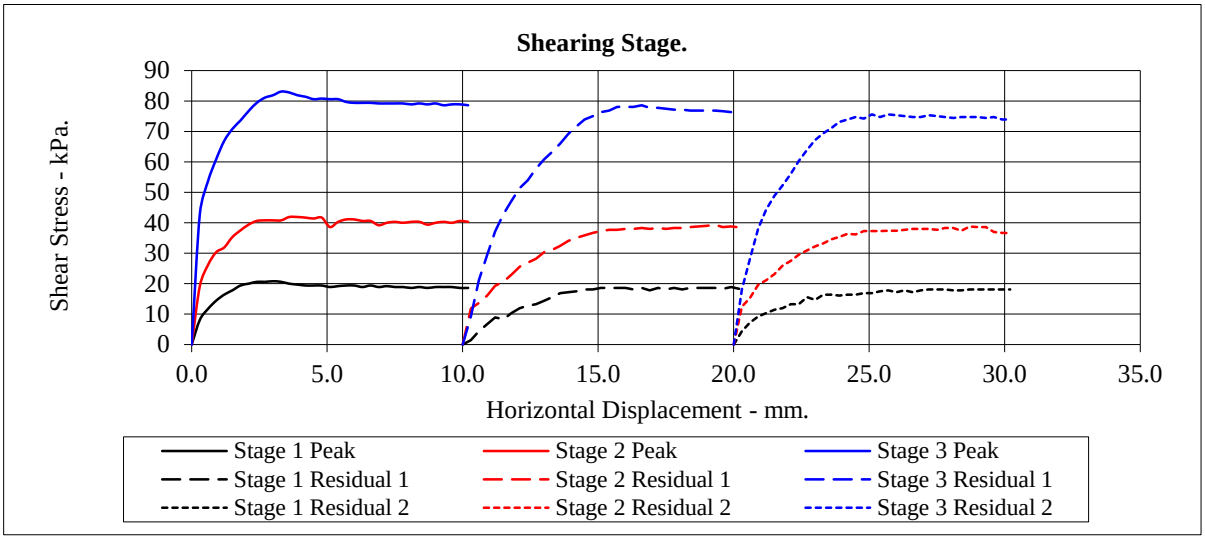
UKAS TESTING 4043 / PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY	**Fishguard Lifespan**	**Contract No:** PSL25/2281 **Client Ref:** POR-00886

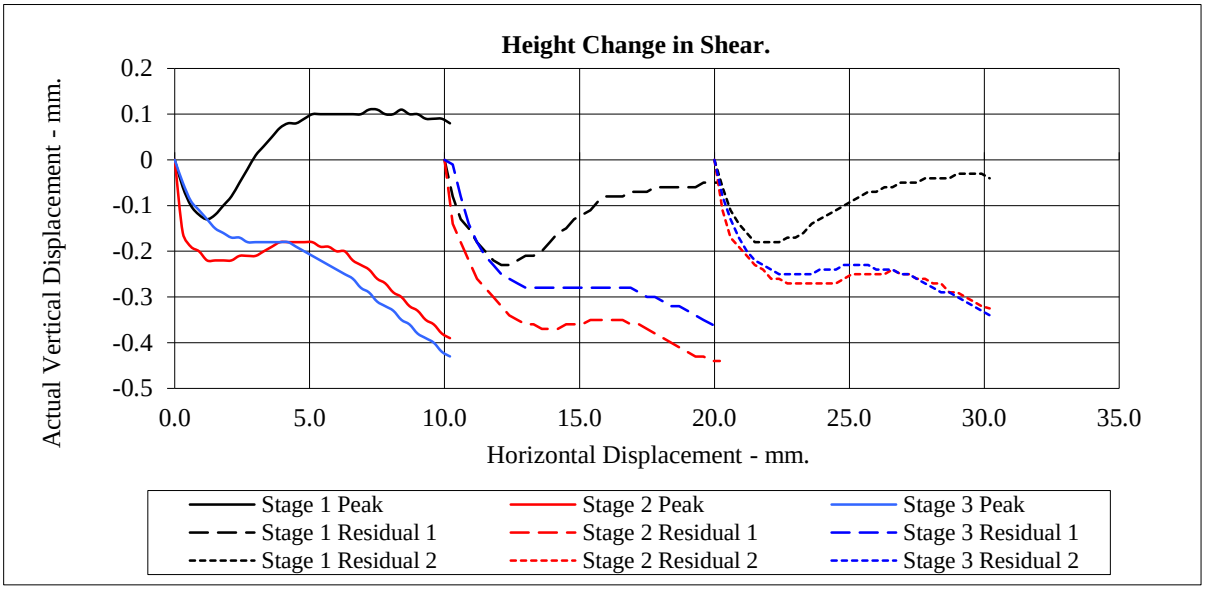
Determination of shear strength by direct shear (shearbox methods)

BS 1377 - Part 2 : 2022 : Clause 25.2 in accordance with BS EN ISO 17892 - 10 : 2018

Hole Number:	**VC-001**	Top Depth:	**0.89**
Sample Number:	**7**	Base Depth:	**2.00**







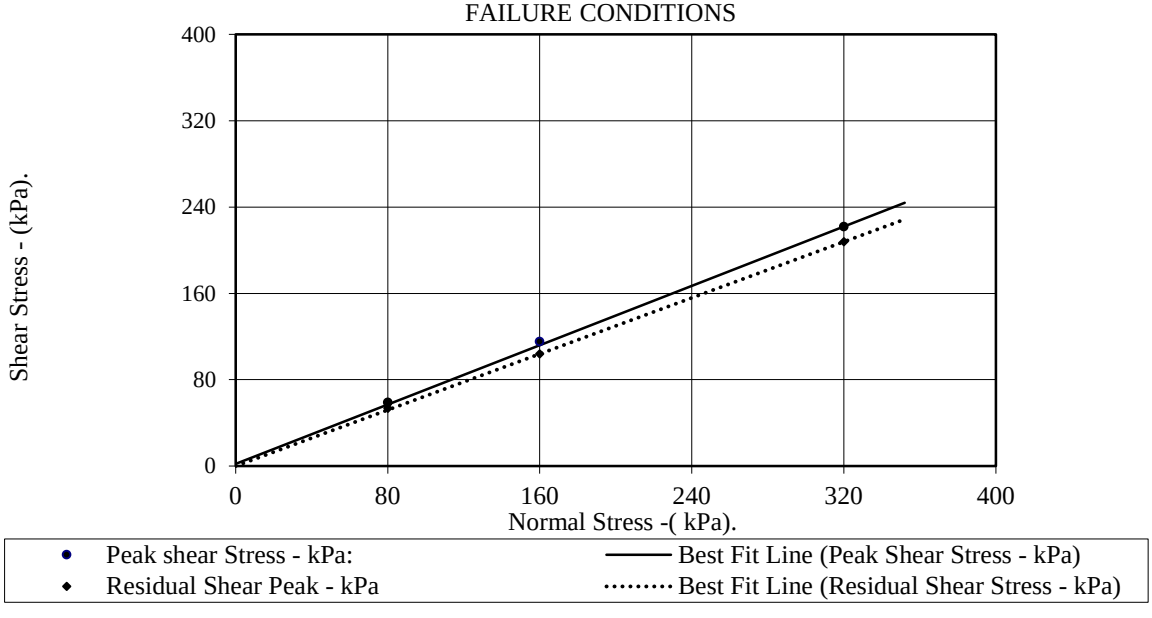
Determination of shear strength by direct shear (shearbox methods)

BS 1377 - Part 2 : 2022 : Clause 25.2 in accordance with BS EN ISO 17892 - 10 : 2018

Hole Number:	**VC-001**		Top Depth	**4.50**	
Sample Number:	**10**		Base Depth	**5.20**	
Sample Conditions:	Submerged		Sample Type	**B**	
Particle Density - Mg/m3:	2.65	Assumed	**Remarks:**		
Specimen Preparation	Material tested passing 2mm sieve Remoulded using hand tamped effort				
Sample Description:	**See summary of soil descriptions**				

STAGE	**1**	**2**	**3**
Initial Conditions			
Height - mm:	24.98	24.98	24.98
Length - mm:	60.00	60.00	60.00
Water Content - %:	26.9	26.9	26.9
Bulk Density - Mg/m3:	1.74	1.74	1.74
Dry Density - Mg/m3:	1.37	1.37	1.37
Voids Ratio:	0.938	0.937	0.928
Degree of saturation:	76.0	76.1	76.8
Normal Pressure- kPa	80	160	320
Consolidation Stage			
Consolidated Height - mm:	24.26	23.99	22.87
Peak Shear			
Rate of Strain - mm/min	0.30	0.30	0.30
Displacement at peak shear stress - mm	3.90	2.70	6.30
Peak shear Stress - kPa:	59	115	222
Residual Shear			
Rate of Strain - mm/min	0.60	0.60	0.60
Final displacement at residual shear stress - mm	30.20	30.20	30.20
Residual shear Stress - kPa:	53	104	208
Final Consolidation Conditions			
Water Content - %:	27.4	24.3	26.4
Bulk Density - Mg/m3:	1.79	1.81	1.90
Dry Density - Mg/m3:	1.40	1.45	1.51
Peak Shear			
Angle of Shearing Resistance:(θ)	35		
Effective Cohesion - kPa:	2		
Residual Shear			
Angle of Shearing Resistance:(θ)	33		
Effective Cohesion - kPa:	0		

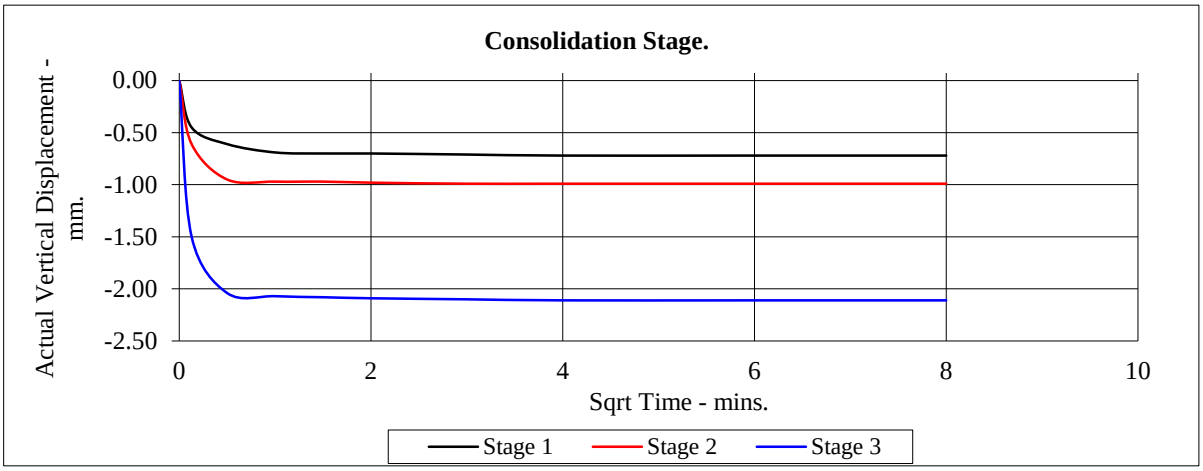
FAILURE CONDITIONS

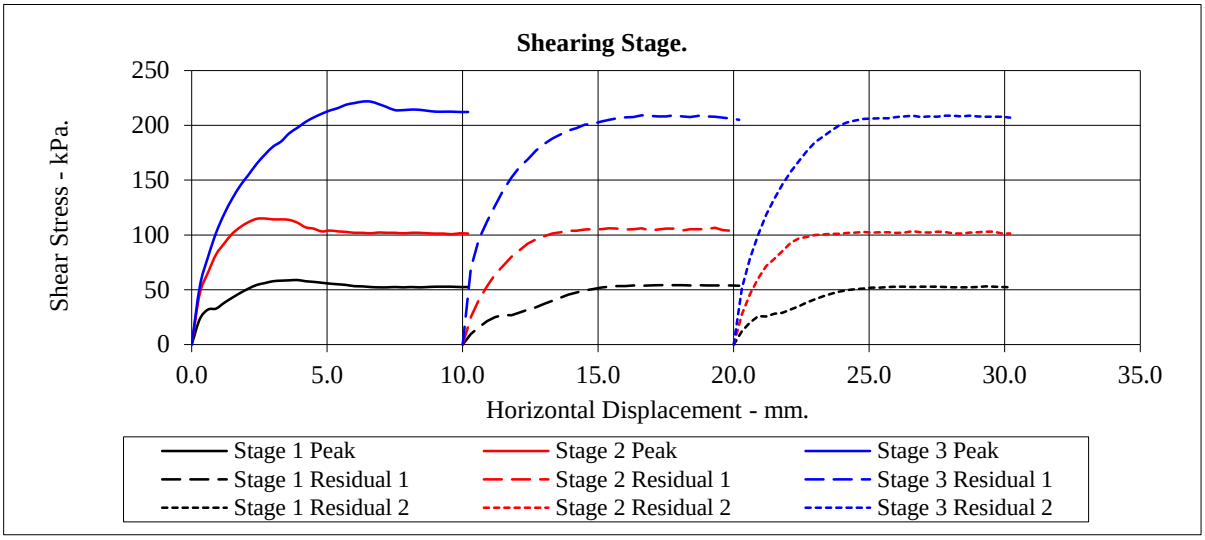


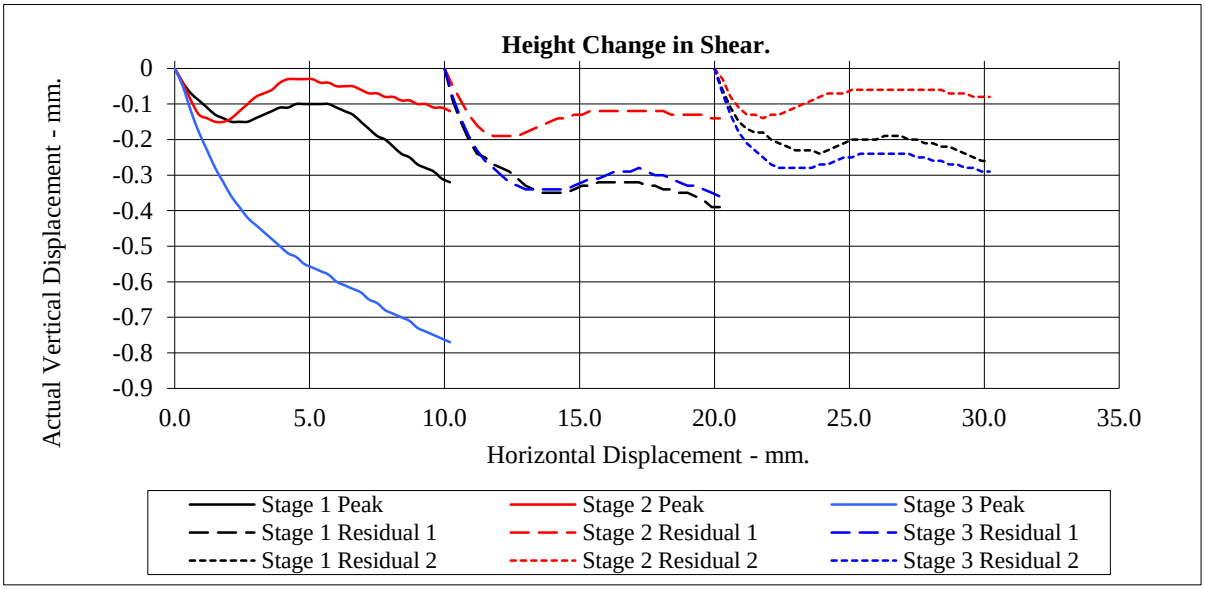
Determination of shear strength by direct shear (shearbox methods)

BS 1377 - Part 2 : 2022 : Clause 25.2 in accordance with BS EN ISO 17892 - 10 : 2018

Hole Number:	**VC-001**	Top Depth:	**4.50**
Sample Number:	**10**	Base Depth:	**5.20**







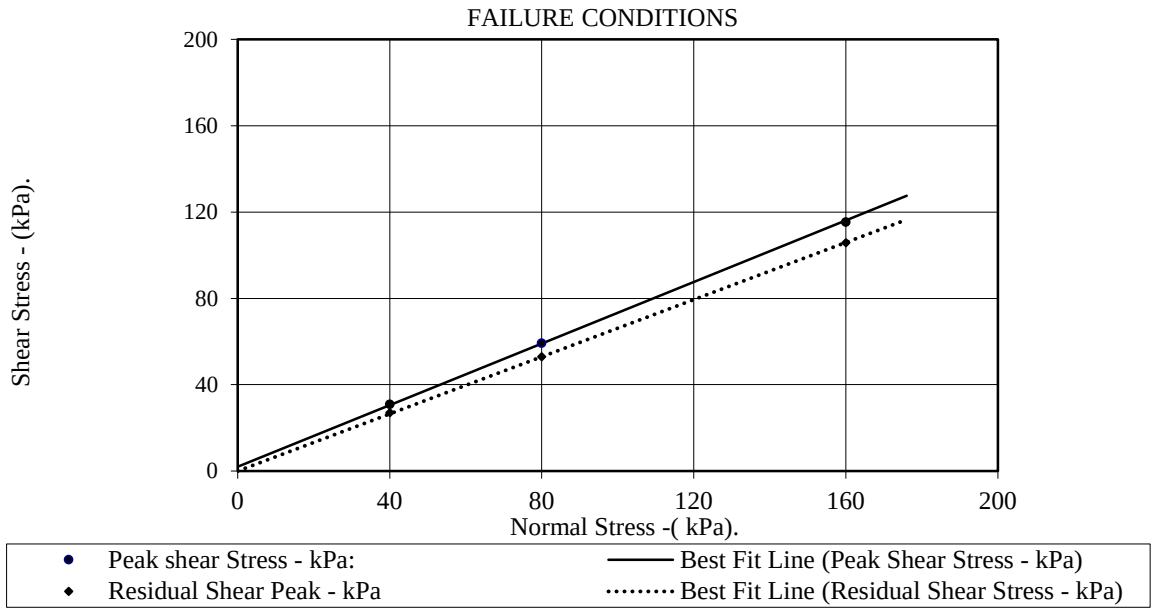
UKAS TESTING 4043 / PSL PROFESSIONAL SOILS LABORATORY	**Fishguard Lifespan**	**Contract No:** PSL25/2281 **Client Ref:** POR-00886

Determination of shear strength by direct shear (shearbox methods)

BS 1377 - Part 2 : 2022 : Clause 25.2 in accordance with BS EN ISO 17892 - 10 : 2018

Hole Number:	**VC-002**		Top Depth	**2.00**	
Sample Number:	**9**		Base Depth	**3.35**	
Sample Conditions:	Submerged		Sample Type	**B**	
Particle Density - Mg/m3:	2.65	Assumed	**Remarks:**		
Specimen Preparation	Material tested passing 2mm sieve Remoulded using hand tamped effort				
Sample Description:	**See summary of soil descriptions**				

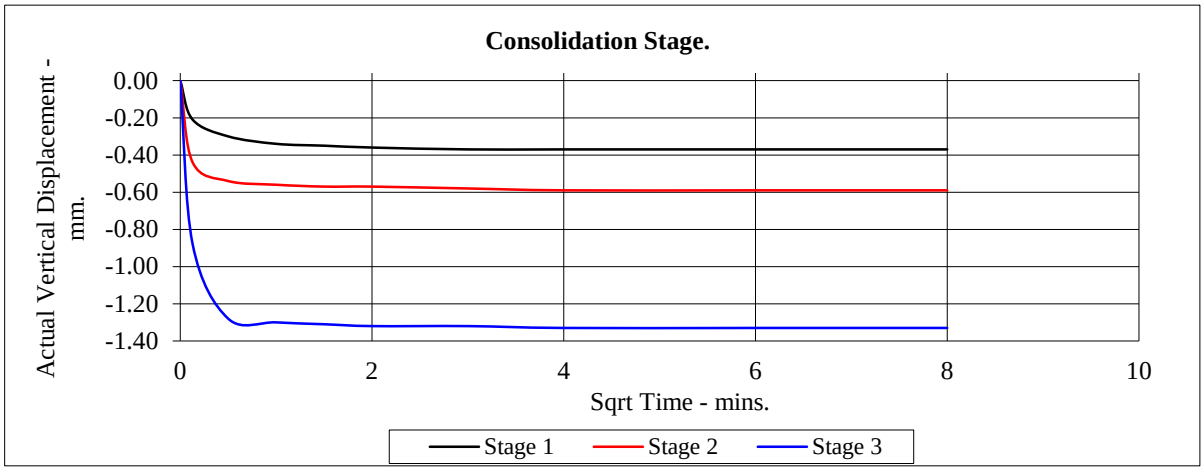
STAGE	**1**	**2**	**3**
Initial Conditions			
Height - mm:	24.98	24.98	24.98
Length - mm:	60.00	60.00	60.00
Water Content - %:	26.5	26.5	26.5
Bulk Density - Mg/m3:	1.74	1.74	1.74
Dry Density - Mg/m3:	1.37	1.38	1.38
Voids Ratio:	0.932	0.927	0.926
Degree of saturation:	75.5	75.9	76.0
Normal Pressure- kPa	40	80	160
Consolidation Stage			
Consolidated Height - mm:	24.61	24.39	23.65
Peak Shear			
Rate of Strain - mm/min	0.30	0.30	0.30
Displacement at peak shear stress - mm	3.30	6.90	3.90
Peak shear Stress - kPa:	31	59	115
Residual Shear			
Rate of Strain - mm/min	0.60	0.60	0.60
Final displacement at residual shear stress - mm	30.20	30.20	30.20
Residual shear Stress - kPa:	27	53	106
Final Consolidation Conditions			
Water Content - %:	30.4	30.5	28.7
Bulk Density - Mg/m3:	1.76	1.78	1.84
Dry Density - Mg/m3:	1.35	1.37	1.43
Peak Shear			
Angle of Shearing Resistance:(θ)	36		
Effective Cohesion - kPa:	2		
Residual Shear			
Angle of Shearing Resistance:(θ)	34		
Effective Cohesion - kPa:	0		

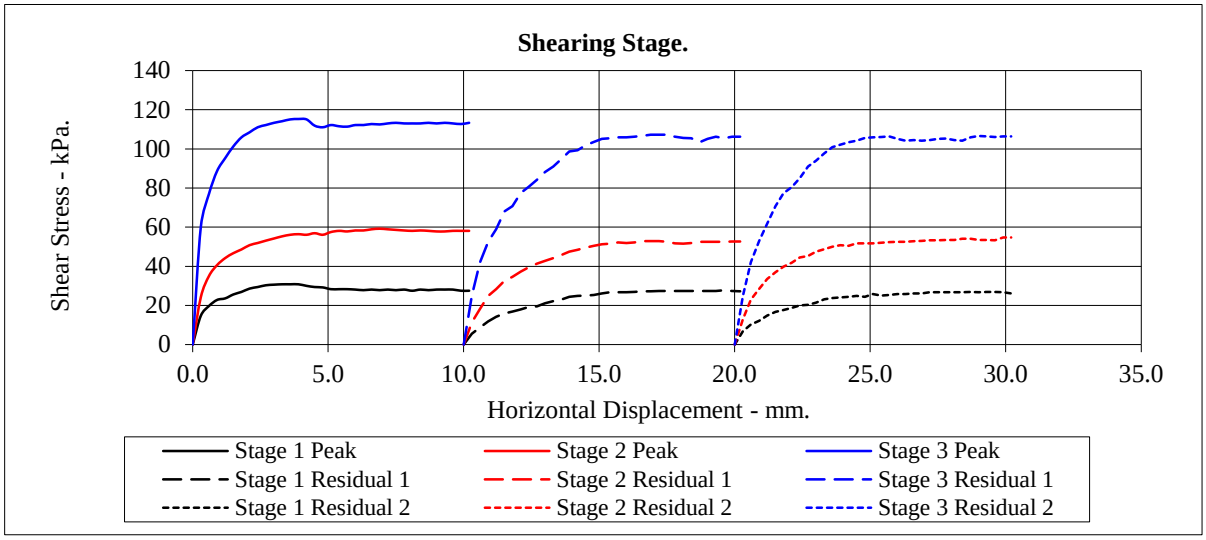


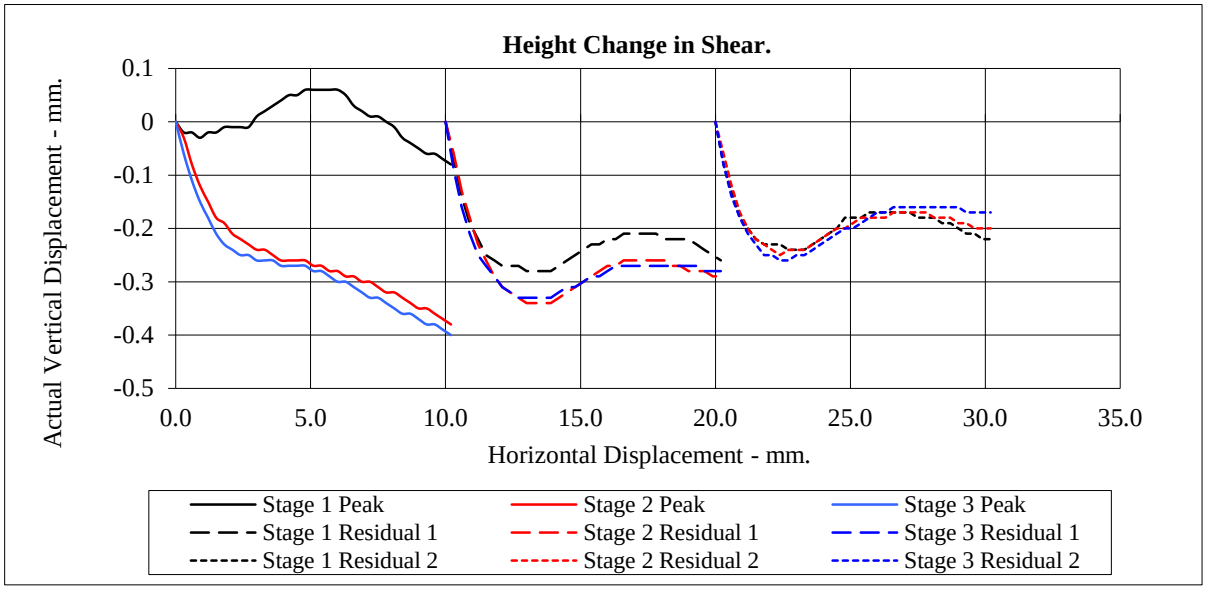
Determination of shear strength by direct shear (shearbox methods)

BS 1377 - Part 2 : 2022 : Clause 25.2 in accordance with BS EN ISO 17892 - 10 : 2018

Hole Number:	**VC-002**	Top Depth:	**2.00**
Sample Number:	**9**	Base Depth:	**3.35**





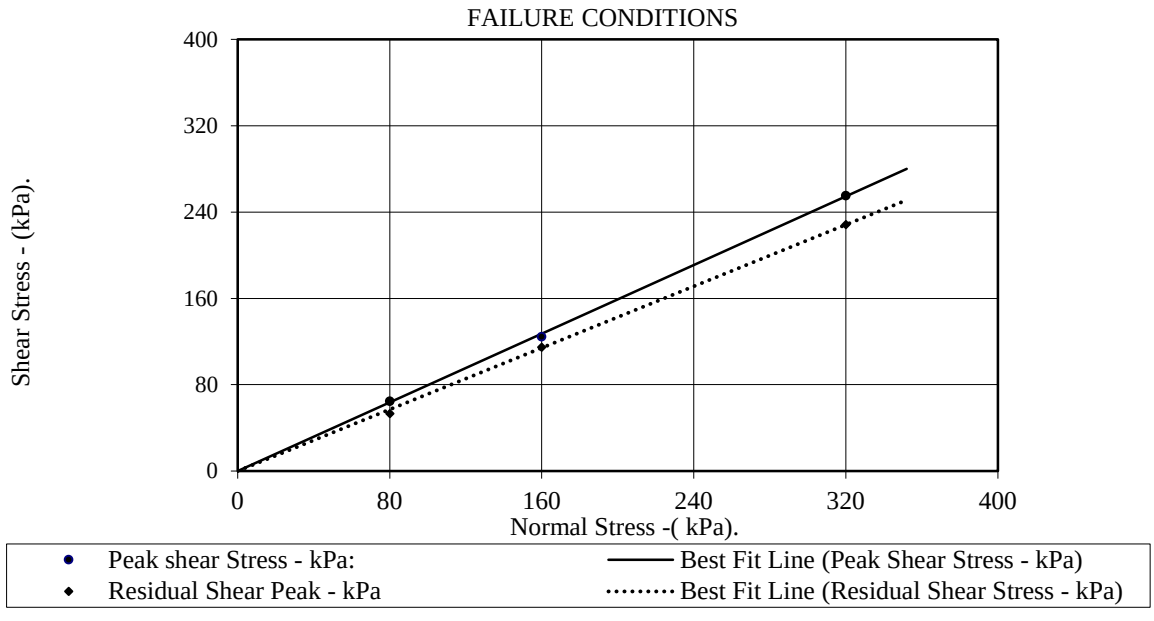


Determination of shear strength by direct shear (shearbox methods)

BS 1377 - Part 2 : 2022 : Clause 25.2 in accordance with BS EN ISO 17892 - 10 : 2018

Hole Number:	**VC-002**		Top Depth	**4.92**
Sample Number:	**11**		Base Depth	**5.22**
Sample Conditions:	Submerged		Sample Type	**B**
Particle Density - Mg/m3:	2.65	Assumed	**Remarks:**	
Specimen Preparation	Material tested passing 2mm sieve Remoulded using hand tamped effort			
Sample Description:	**See summary of soil descriptions**			

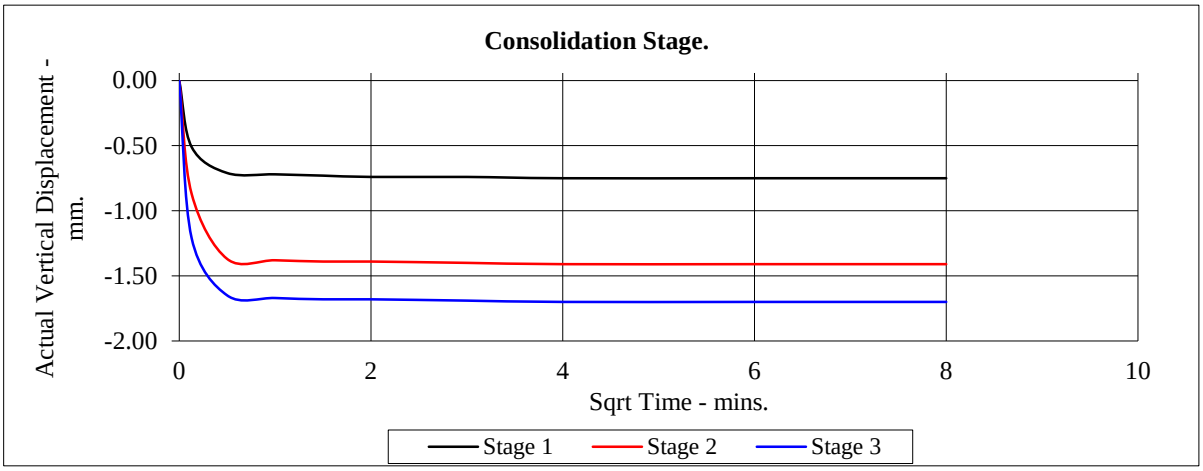
STAGE	**1**	**2**	**3**
Initial Conditions			
Height - mm:	24.98	24.98	24.98
Length - mm:	60.00	60.00	60.00
Water Content - %:	20.9	20.9	20.9
Bulk Density - Mg/m3:	1.98	1.98	1.98
Dry Density - Mg/m3:	1.64	1.64	1.64
Voids Ratio:	0.620	0.617	0.617
Degree of saturation:	89.3	89.8	89.7
Normal Pressure- kPa	80	160	320
Consolidation Stage			
Consolidated Height - mm:	24.23	23.57	23.28
Peak Shear			
Rate of Strain - mm/min	0.30	0.30	0.30
Displacement at peak shear stress - mm	3.30	5.40	4.50
Peak shear Stress - kPa:	64	124	255
Residual Shear			
Rate of Strain - mm/min	0.60	0.60	0.60
Final displacement at residual shear stress - mm	30.20	30.20	30.20
Residual shear Stress - kPa:	53	114	228
Final Consolidation Conditions			
Water Content - %:	18.2	17.6	16.7
Bulk Density - Mg/m3:	2.04	2.10	2.13
Dry Density - Mg/m3:	1.72	1.79	1.82
Peak Shear			
Angle of Shearing Resistance:(θ)	39		
Effective Cohesion - kPa:	0		
Residual Shear			
Angle of Shearing Resistance:(θ)	36		
Effective Cohesion - kPa:	0		

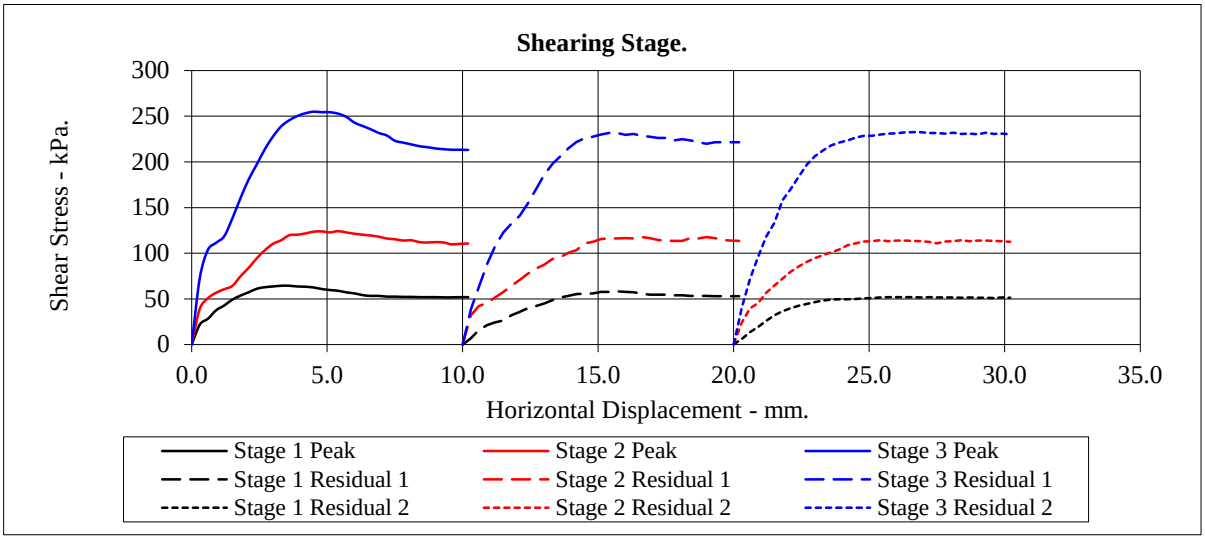


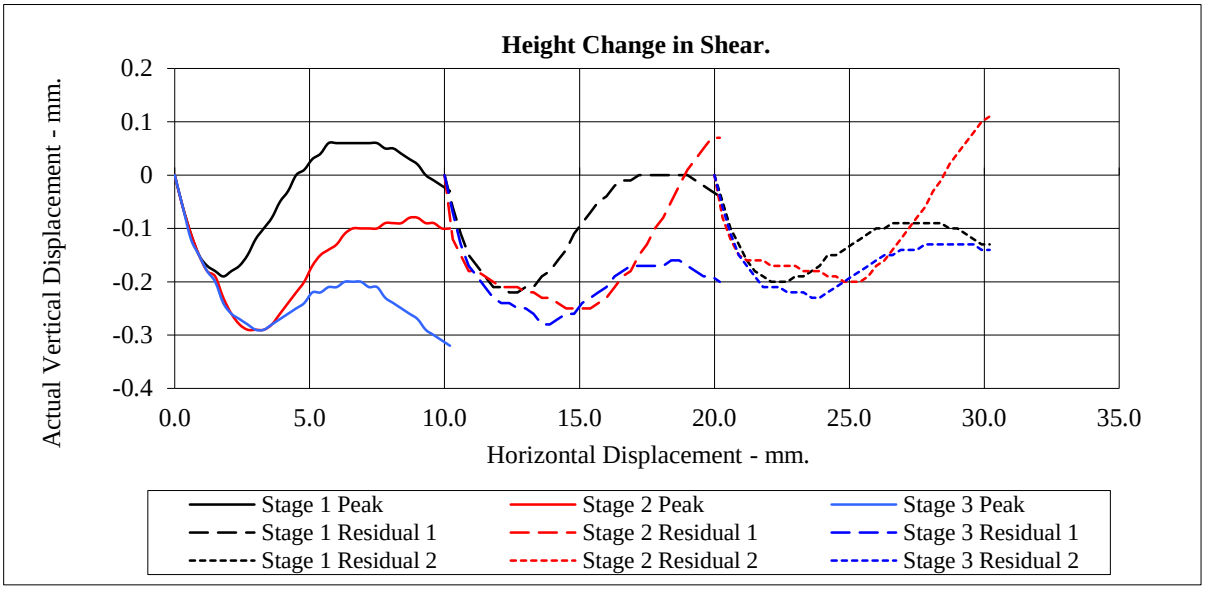
Determination of shear strength by direct shear (shearbox methods)

BS 1377 - Part 2 : 2022 : Clause 25.2 in accordance with BS EN ISO 17892 - 10 : 2018

Hole Number:	**VC-002**	Top Depth:	**4.92**
Sample Number:	**11**	Base Depth:	**5.22**







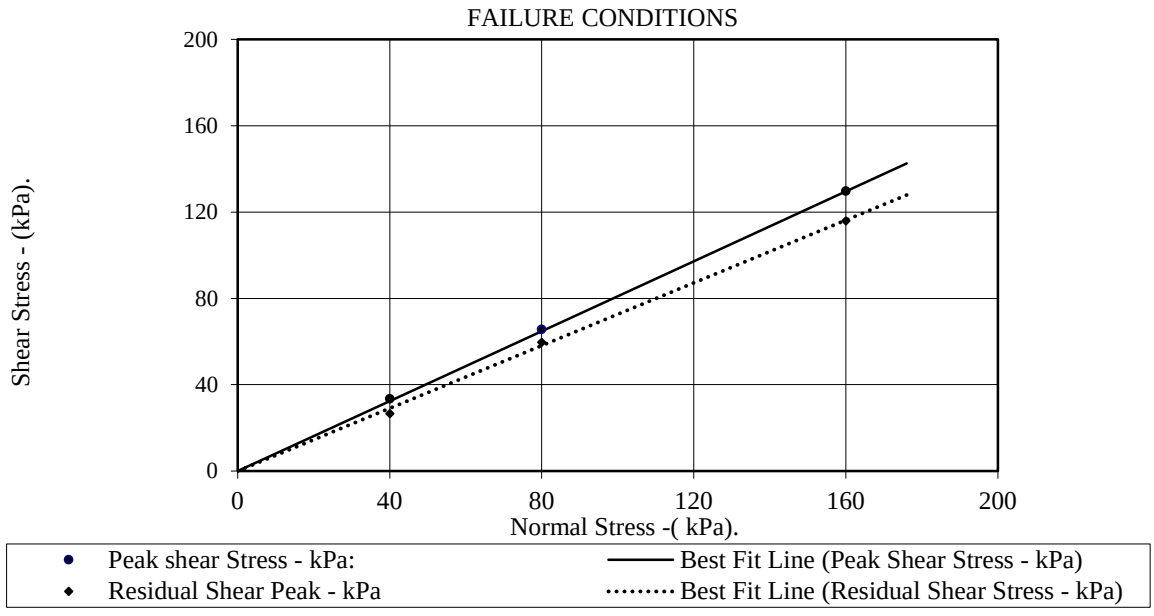
UKAS TESTING 4043 / PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY	**Fishguard Lifespan**	**Contract No:** PSL25/2281 **Client Ref:** POR-00886

Determination of shear strength by direct shear (shearbox methods)

BS 1377 - Part 2 : 2022 : Clause 25.2 in accordance with BS EN ISO 17892 - 10 : 2018

Hole Number:	**VC-005A**		Top Depth	**3.08**	
Sample Number:	**11**		Base Depth	**3.80**	
Sample Conditions:	Submerged		Sample Type	**B**	
Particle Density - Mg/m3:	2.65	Assumed	**Remarks:**		
Specimen Preparation	Material tested passing 2mm sieve Remoulded using hand tamped effort				
Sample Description:	**See summary of soil descriptions**				

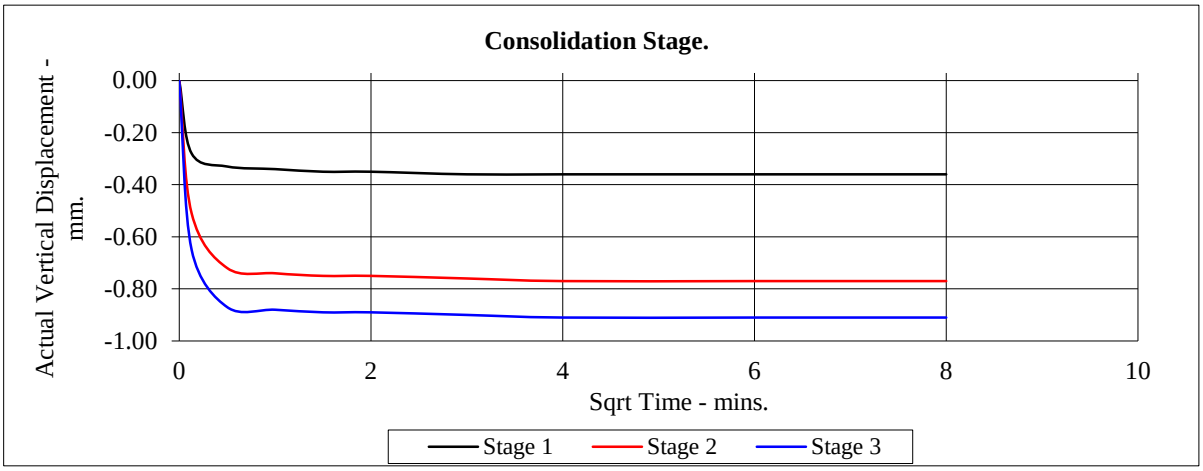
STAGE	**1**	**2**	**3**
Initial Conditions			
Height - mm:	24.98	24.98	24.98
Length - mm:	60.00	60.00	60.00
Water Content - %:	22.0	22.0	22.0
Bulk Density - Mg/m3:	1.89	1.89	1.89
Dry Density - Mg/m3:	1.55	1.55	1.55
Voids Ratio:	0.713	0.713	0.713
Degree of saturation:	81.7	81.8	81.7
Normal Pressure- kPa	40	80	160
Consolidation Stage			
Consolidated Height - mm:	24.62	24.21	24.07
Peak Shear			
Rate of Strain - mm/min	0.30	0.30	0.30
Displacement at peak shear stress - mm	2.10	3.00	3.30
Peak shear Stress - kPa:	33	66	130
Residual Shear			
Rate of Strain - mm/min	0.60	0.60	0.60
Final displacement at residual shear stress - mm	30.20	30.20	30.20
Residual shear Stress - kPa:	27	60	116
Final Consolidation Conditions			
Water Content - %:	21.5	22.2	20.4
Bulk Density - Mg/m3:	1.91	1.95	1.96
Dry Density - Mg/m3:	1.58	1.59	1.63
Peak Shear			
Angle of Shearing Resistance:(θ)	39		
Effective Cohesion - kPa:	0		
Residual Shear			
Angle of Shearing Resistance:(θ)	36		
Effective Cohesion - kPa:	0		

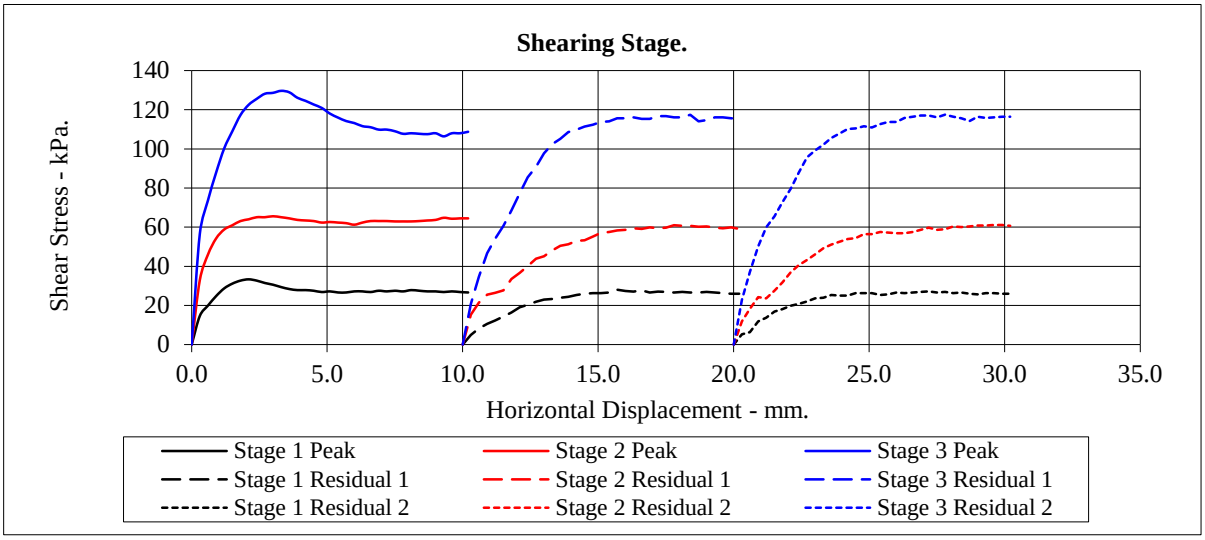


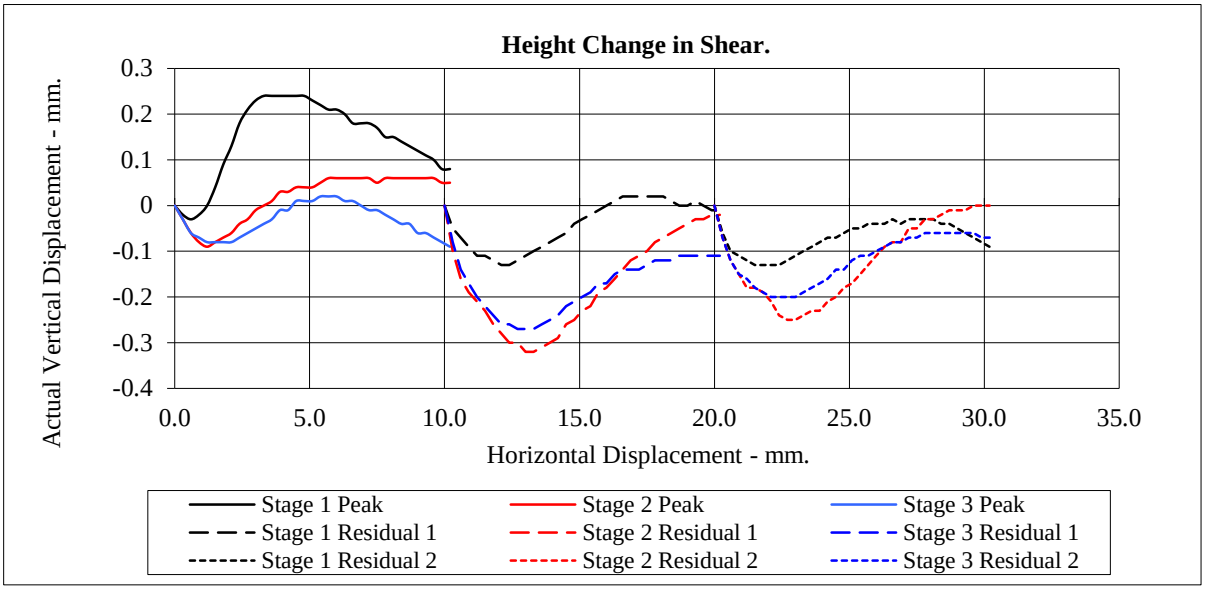
Determination of shear strength by direct shear (shearbox methods)

BS 1377 - Part 2 : 2022 : Clause 25.2 in accordance with BS EN ISO 17892 - 10 : 2018

Hole Number:	**VC-005A**	Top Depth:	**3.08**
Sample Number:	**11**	Base Depth:	**3.80**







Certificate of Analysis

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

SOCOTEC

Test Report ID MAR02604

Issue Version: 1

Customer: InSitu SI, Unit 2 Rotherham Business Park, Chesterton Road, Rotherham, S65 1SE

Customer Reference: Fishguard - MMO/RPS Chem suite

Date Sampled: 18-Mar-25

Date Samples Received: 20-Mar-25

Test Report Date: 10-Apr-25

Condition of samples: Frozen Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditation
The results reported relate only to the sample tested
The results apply to the sample as received

JNColbourne

Authorised by: Jane Colbourne

Position: Customer Service Specialist

UKAS TESTING
1252

This test report shall not be reproduced except in full, without written approval of the laboratory

Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	% M/M	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	WSLM59*	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	UKAS/MMO	MMO	MMO	MMO	MMO	MMO	MMO
			Total Organic Carbon	45mm	31.5mm	22.4mm	16mm	11.2mm	8mm
Client Reference:	SOCOTEC Ref:	Matrix	–	-5.5	-5.0	-4.5	-4.0	-3.5	-3.0
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	1.46	0.00	0.00	0.00	0.00	0.00	0.00
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	0.66	0.00	0.00	0.00	0.00	0.00	0.00
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	0.75	0.00	0.00	0.00	0.00	0.00	0.00
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	0.56	0.00	0.00	0.00	0.00	0.00	0.24
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	1.66	0.00	0.00	0.00	0.00	0.00	0.00
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	0.96	0.00	0.00	0.00	0.00	0.00	0.00
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	>23.0	0.00	6.31	12.08	10.12	2.82	3.81
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	8.31	0.00	0.00	0.00	1.81	1.46	0.00
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	0.19	0.00	0.00	0.00	0.00	0.00	0.00
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	1.43	0.00	0.00	0.00	0.00	0.00	0.03
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	1.45	0.00	0.00	0.00	0.00	0.00	0.00
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	1.68	0.00	0.00	0.00	0.00	0.00	0.13
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	0.19	0.00	0.00	0.00	0.00	0.00	0.86
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	1.15	0.00	0.00	0.00	0.00	0.46	0.00
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	0.35	0.00	0.00	0.00	0.00	0.00	0.00
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	0.42	0.00	0.00	0.00	0.00	0.08	0.00
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	0.09	0.00	0.00	0.00	0.00	0.00	0.00
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	0.15	0.00	0.00	0.00	0.00	0.00	0.00
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	1.70	0.00	0.00	0.00	0.00	0.00	0.00
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	0.35	0.00	0.00	0.00	2.00	0.50	0.70
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	0.31	0.00	0.00	0.00	0.00	0.00	0.00
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	1.67	0.00	0.00	0.00	0.00	0.00	0.00
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	0.37	0.00	0.00	0.00	0.00	0.00	0.00
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	0.43	0.00	0.00	0.00	0.00	0.00	0.00

* See Report Notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	MMO	MMO	MMO	MMO	MMO	MMO	MMO
			5.6mm	4mm	2.8mm	2mm	1.4mm	1mm	707µm
Client Reference:	SOCOTEC Ref:	Matrix	-2.5	-2.0	-1.5	-1.0	-0.5	0.0	0.5
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	0.00	0.05	0.05	0.05	0.07	0.10	0.00
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	0.05	0.02	0.05	0.05	0.07	0.07	0.57
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	0.04	0.07	0.15	0.18	0.24	0.26	0.00
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	0.00	0.00	0.03	0.03	0.03	0.03	0.00
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	0.03	0.03	0.03	0.03	0.03	0.03	0.00
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	0.00	0.02	0.02	0.02	0.02	0.07	0.00
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	5.30	3.73	5.38	4.69	4.20	4.39	3.27
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	0.49	0.64	0.92	1.15	1.43	1.76	2.39
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	0.25	0.19	0.50	0.41	0.58	1.08	2.59
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	0.03	0.03	0.03	0.03	0.11	0.14	0.00
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	0.03	0.03	0.05	0.11	0.16	0.25	0.00
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	0.55	0.36	0.55	0.39	0.60	0.68	0.00
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	0.27	0.20	0.35	0.22	0.38	0.46	0.34
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	0.49	0.46	0.68	1.01	1.04	1.69	0.00
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	0.06	0.15	0.21	0.25	0.29	0.25	0.00
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	0.10	0.12	0.20	0.24	0.24	0.20	0.00
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	0.00	0.00	0.00	0.02	0.02	0.02	0.00
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	0.02	0.02	0.02	0.02	0.02	0.02	0.00
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	0.03	0.03	0.03	0.03	0.06	0.22	0.00
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	0.91	1.28	2.09	1.94	2.35	3.68	0.00
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	0.00	0.15	0.15	0.32	0.41	0.52	0.00
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	0.00	0.00	0.03	0.03	0.03	0.03	0.00
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	0.21	0.07	0.19	0.23	0.30	0.23	0.00
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	0.00	0.06	0.03	0.06	0.03	0.03	0.00

* See Report Notes

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	MMO	MMO	MMO	MMO	MMO	MMO	MMO
			500µm	353.6µm	250µm	176.8µm	125µm	88.39µm	63µm
Client Reference:	SOCOTEC Ref:	Matrix	1.0	1.5	2.0	2.5	3.0	3.5	4.0
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	0.00	1.99	10.85	21.94	25.58	17.69	7.02
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	1.49	2.64	5.00	7.77	8.72	7.12	5.37
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	0.00	0.43	6.46	12.75	13.34	8.61	4.33
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	0.00	0.02	2.38	5.53	6.77	6.18	5.59
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	0.00	0.29	1.73	3.38	4.57	5.14	5.51
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	0.00	0.00	2.06	9.38	14.64	13.36	8.28
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	3.39	2.80	2.73	3.42	3.99	3.52	2.27
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	2.91	4.66	10.00	16.37	18.35	13.39	6.26
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	1.68	2.28	9.35	20.17	25.47	19.49	8.60
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	0.11	1.05	2.60	3.90	4.63	4.76	4.97
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	0.22	1.48	3.32	5.25	6.74	7.06	6.65
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	0.05	1.39	4.64	8.27	10.29	9.34	6.83
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	2.35	9.77	22.04	28.18	21.32	7.76	0.75
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	0.00	0.66	4.43	8.11	9.79	9.14	7.51
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	0.52	1.80	4.26	7.62	9.89	9.40	7.27
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	0.00	2.23	11.51	21.98	24.47	16.29	6.16
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	0.01	1.58	14.42	33.10	33.46	13.84	1.42
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	0.00	1.40	12.15	24.86	28.18	18.46	6.41
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	0.00	0.32	1.26	2.42	3.90	5.75	8.16
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	0.02	0.86	2.77	5.26	8.07	9.34	8.10
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	1.67	9.56	13.38	9.20	3.76	1.80	2.53
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	0.00	0.20	2.09	4.35	5.74	6.33	6.71
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	0.00	0.00	1.65	8.06	15.17	17.71	14.02
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	0.00	0.00	0.00	0.54	2.79	4.62	5.17

* See Report Notes

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	MMO	MMO	MMO	MMO	MMO	MMO	MMO
			44.2µm	**31.3µm**	**22.1µm**	**15.6µm**	**11µm**	**7.8µm**	**5.5µm**
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**4.5**	**5.0**	**5.5**	**6.0**	**6.5**	**7.0**	**7.5**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	1.90	1.56	2.06	1.81	1.47	1.45	1.47
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	5.25	6.06	6.58	6.67	6.87	7.14	6.92
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	3.33	4.08	4.65	4.81	5.23	6.02	6.53
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	6.00	6.86	7.45	7.81	8.39	8.93	8.64
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	6.10	6.70	6.90	6.84	7.26	8.30	9.12
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	4.62	3.79	4.31	4.76	5.19	5.80	6.17
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	1.30	1.00	1.06	1.11	1.12	1.16	1.21
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	2.31	1.60	1.80	1.64	1.40	1.40	1.48
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	1.85	0.41	0.90	0.92	0.61	0.51	0.60
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	5.71	6.62	7.27	7.73	8.46	9.24	9.32
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	6.44	6.45	6.37	6.27	6.57	7.25	7.70
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	5.17	4.79	4.93	5.02	5.25	5.72	6.09
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	0.02	0.42	0.75	0.66	0.51	0.50	0.55
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	6.34	5.76	5.40	5.24	5.45	5.84	5.88
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	5.56	4.81	4.63	4.64	4.88	5.33	5.72
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	1.49	1.33	1.97	1.84	1.54	1.51	1.58
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	0.00	0.00	0.05	0.35	0.42	0.33	0.28
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	0.94	0.73	1.35	1.09	0.71	0.70	0.82
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	10.74	11.93	10.61	8.20	6.63	6.35	6.41
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	6.02	4.64	4.20	4.18	4.36	4.66	4.83
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	3.49	4.01	4.41	4.79	5.19	5.61	5.93
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	7.16	7.44	7.45	7.52	7.94	8.40	8.27
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	8.24	4.29	3.11	3.22	3.40	3.48	3.55
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	5.55	6.33	7.19	7.69	8.09	8.54	8.83

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	MMO	MMO	MMO	MMO	MMO	MMO	MMO
			3.9µm	2.75µm	1.95µm	1.38µm	0.98µm	0.69µm	0.49µm
Client Reference:	SOCOTEC Ref:	Matrix	8.0	8.5	9.0	9.5	10.0	10.5	11.0
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	1.25	0.87	0.49	0.24	0.04	0.00	0.00
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	5.86	4.19	2.46	1.24	0.86	0.79	0.15
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	6.16	4.86	3.10	1.63	1.12	1.19	0.41
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	7.24	5.13	3.00	1.50	1.04	0.99	0.20
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	8.81	7.27	4.87	2.61	1.76	1.92	0.72
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	5.77	4.58	2.96	1.58	1.10	1.14	0.37
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	1.15	0.96	0.67	0.38	0.26	0.28	0.11
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	1.40	1.14	0.77	0.43	0.29	0.29	0.07
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	0.61	0.51	0.34	0.11	0.00	0.00	0.00
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	8.21	6.15	3.79	1.95	1.34	1.37	0.42
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	7.21	5.69	3.63	1.91	1.32	1.38	0.47
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	5.81	4.76	3.22	1.81	1.34	1.46	0.56
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	0.53	0.43	0.29	0.09	0.00	0.00	0.00
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	5.19	3.85	2.34	1.20	0.86	0.90	0.28
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	5.63	4.93	3.74	2.45	2.07	2.44	1.16
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	1.47	1.19	0.84	0.52	0.39	0.40	0.11
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	0.28	0.26	0.14	0.00	0.00	0.00	0.00
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	0.80	0.64	0.42	0.21	0.00	0.00	0.00
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	5.78	4.36	2.69	1.43	1.09	1.17	0.37
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	4.60	3.91	2.88	1.81	1.47	1.73	0.80
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	5.81	5.08	3.85	2.52	2.13	2.51	1.17
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	7.18	5.32	3.25	1.68	1.21	1.26	0.38
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	3.43	2.95	2.16	1.36	1.13	1.30	0.55
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	8.53	7.51	5.81	3.84	3.20	3.73	1.76

* See Report Notes

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	MMO	MMO	MMO	MMO	MMO	MMO	MMO
			0.34µm	0.24µm	0.17µm	0.12µm	0.09µm	0.06µm	0.04µm
Client Reference:	SOCOTEC Ref:	Matrix	11.5	12.0	12.5	13.0	13.5	14.0	14.5
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	0.05	0.00	0.00	0.00	0.00	0.00	0.00
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	0.03	0.00	0.00	0.00	0.00	0.00	0.00
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	0.05	0.00	0.00	0.00	0.00	0.00	0.00
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	0.07	0.00	0.00	0.00	0.00	0.00	0.00

* See Report Notes

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	% (at 0.5phi intervals)
		Method No	*SUB_01
		Accreditation	MMO
			<0.04µm
Client Reference:	SOCOTEC Ref:	Matrix	>14.5
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	0.00
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	0.00
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	0.00
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	0.00
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	0.00
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	0.00
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	0.00
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	0.00
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	0.00
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	0.00
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	0.00
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	0.00
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	0.00
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	0.00
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	0.00
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	0.00
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	0.00
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	0.00
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	0.00
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	0.00
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	0.00
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	0.00
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	0.00
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	0.00

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Certificate of Analysis

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

Test Report ID	MAR02604
Issue Version	1
Customer Reference	Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)							
		Method No	ICPMSS*							
		Limit of Detection	0.5	0.04	0.5	0.5	0.01	0.5	0.5	2
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic (As)**	**Cadmium (Cd)**	**Chromium (Cr)**	**Copper (Cu)**	**Mercury (Hg)**	**Nickel (Ni)**	**Lead (Pb)**	**Zinc (Zn)**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	6.1	0.06	11.9	7.1	0.02	12.5	9.3	41.6
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	9.7	0.08	18.0	15.0	0.03	18.0	17.2	60.6
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	8.3	0.09	18.5	11.7	0.03	18.6	18.3	68.9
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	7.7	0.08	15.4	9.7	0.03	15.4	13.6	51.4
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	12.7	0.14	27.3	15.4	0.08	25.6	29.9	96.0
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	9.5	0.19	23.3	17.7	0.10	21.7	42.7	104
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	6.2	0.54	6.7	25.8	1.00	10.1	211	226
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	13.6	0.60	10.8	15.8	0.14	12.9	102	907
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	8.6	0.08	12.5	6.4	<0.01	13.2	7.3	48.6
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	12.8	0.14	31.4	18.2	0.06	29.3	34.2	111
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	12.1	0.15	26.9	20.4	0.07	25.1	29.4	93.3
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	9.0	0.11	18.5	13.4	0.05	18.1	42.5	75.0
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	6.6	0.08	11.3	6.5	0.02	11.7	7.4	34.8
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	9.7	0.13	23.1	14.7	0.05	22.1	29.9	79.9
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	10.1	0.15	25.5	14.9	0.02	27.8	14.0	61.0
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	8.7	0.08	11.4	7.0	0.01	12.0	6.7	30.9
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	6.9	0.09	11.4	5.7	<0.01	11.8	6.2	28.0
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	8.3	0.09	12.0	6.8	0.03	12.8	7.2	32.8
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	12.6	0.35	25.3	28.3	0.33	24.0	77.4	155
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	7.8	0.11	13.3	5.7	0.02	13.4	8.2	41.0
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	7.9	0.13	18.6	9.4	0.02	19.1	10.2	46.6
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	13.1	0.14	34.1	18.7	0.09	30.2	41.1	117
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	8.6	0.13	20.2	8.7	0.02	20.0	10.5	51.4
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	9.5	0.15	25.3	12.8	0.02	25.4	13.2	58.0
Certified Reference Material SETOC 768 (% Recovery)			103	110	105	111	98	108	106	110
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

* See Report Notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	%	mg/Kg (Dry Weight)
		Method No	LOI(%MM)*	KONENS*
		Limit of Detection	0.2	0.1
		Accreditation	N	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**LOI @ 450°C**	**Chromium (VI) as Cr**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	2.1	<0.1
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	4.5	<0.1
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	4.6	<0.1
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	3.7	<0.1
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	10.0	<0.1
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	5.7	<0.1
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	14.8	<0.1
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	14.9	<0.1
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	2.1	<0.1
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	8.0	<0.1
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	7.4	<0.1
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	5.3	<0.1
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	1.0	<0.1
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	4.4	<0.1
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	1.4	<0.1
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	0.5	<0.1
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	0.5	0.2
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	1.2	<0.1
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	5.4	<0.1
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	1.7	<0.1
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	1.4	<0.1
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	7.6	<0.1
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	1.8	<0.1
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	3.0	<0.1
		Reference Material (% Recovery)	101	96
		QC Blank	<0.2	<0.1

* See Report Notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	0.001	0.001
		Accreditation	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	<0.001	<0.001
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	<0.005	<0.005
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	<0.005	<0.005
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	<0.005	<0.005
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	<0.005	<0.005
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	<0.005	<0.005
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	<0.005	<0.005
Certified Reference Material BCR-646 (% Recovery)			80	65
QC Blank			<0.001	<0.001

* See Report Notes

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	0.001	0.001
		Accreditation	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	<0.005	<0.005
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	<0.001	<0.001
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	<0.005	<0.005
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	<0.005	<0.005
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	<0.005	<0.005
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<0.001	<0.001
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	<0.005	<0.005
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<0.005	<0.005
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<0.001	<0.001
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<0.001	<0.001
Certified Reference Material BCR-646 (% Recovery)			81	66
QC Blank			<0.001	<0.001

* See Report Notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	0.001	0.001
		Accreditation	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<0.001	<0.001
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	<0.005	<0.005
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<0.005	<0.005
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<0.005	<0.005
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	<0.005	<0.005
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<0.005	<0.005
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<0.005	<0.005
Certified Reference Material BCR-646 (% Recovery)			70	56
QC Blank			<0.001	<0.001

* See Report Notes

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**	**BENZGHIP**	**BEP**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	1.72	<1	2.01	3.57	4.05	6.13	4.85	5.02
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	7.50	2.93	10.2	28.0	27.8	35.5	26.5	28.7
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	4.02	2.49	9.31	23.1	24.4	34.8	24.6	26.1
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	3.65	1.87	5.77	13.4	14.4	20.8	15.7	16.8
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	9.17	6.18	13.6	43.5	47.7	64.5	46.9	51.0
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	20.8	8.03	25.8	88.7	116	161	98.3	112
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	137	34.1	370	574	596	611	296	465
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	29.1	19.5	112	174	288	327	92.8	234
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	1.81	1.85	13.2	30.4	24.3	18.2	10.8	14.6
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	15.2	4.26	16.9	60.2	71.6	107	64.4	73.5
Certified Reference Material Nist 1941b (% Recovery)			71	111	70	68	57	83	71	88
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

For full analyte name see method summaries.

*See report notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	UKAS/MMO	MMO	MMO	MMO	MMO	MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BKF***	**C1N**	**C1PHEN**	**C2N**	**C3N**	**CHRYSENE***	**DBENZAH**	**FLUORANT**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	5.41	11.5	14.4	11.8	8.76	6.40	1.44	9.74
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	25.6	40.5	44.9	41.1	31.1	52.0	6.69	50.2
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	25.1	37.8	43.5	39.0	33.3	36.2	6.32	46.4
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	14.4	30.7	31.9	30.2	22.7	22.8	3.44	32.4
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	44.9	85.7	86.8	89.6	66.3	66.7	9.55	93.4
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	114	101	105	95.4	82.0	130	27.2	166
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	475	301	659	202	120	773	83.9	1490
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	304	61.6	168	77.1	73.0	257	22.9	328
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	19.4	3.98	26.2	5.25	7.43	28.6	2.75	74.4
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	71.0	92.0	99.7	86.6	76.9	97.8	14.2	132
Certified Reference Material Nist 1941b (% Recovery)			72	77	93	117	117	92	112	86
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

For full analyte name see method summaries.

*See report notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	mg/Kg
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/305
		Limit of Detection	1	1	1	1	1	1	1
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**FLUORENE**	**INDPYR**	**NAPTH**	**PERYLENE**	**PHENANT**	**PYRENE**	**THC**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	3.10	5.03	6.26	4.21	9.25	8.14	6.98
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	11.0	30.0	18.5	12.4	36.5	39.4	18.6
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	9.50	27.8	18.8	12.6	36.8	35.2	20.1
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	7.96	16.2	13.6	8.20	28.2	24.3	8.41
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	21.7	51.0	44.1	18.0	75.5	69.8	32.5
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	34.5	115	54.2	40.7	112	157	33.4
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	256	315	248	158	1250	1870	580
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	44.3	94.7	42.9	67.8	144	1030	115
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	3.32	12.2	1.93	9.66	24.1	61.8	1.56
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	25.8	73.2	42.8	39.3	102	103	12.1
Certified Reference Material Nist 1941b (% Recovery)			46	75	61	57	85	76	95~
QC Blank			<1	<1	<1	<1	<1	<1	<1

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

For full analyte name see method summaries.

*See report notes

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**	**BENZGHIP**	**BEP**
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	12.0	5.23	18.5	58.8	64.3	103	62.2	71.1
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	17.5	6.76	27.6	83.1	78.4	107	62.1	74.0
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<1	<1	<1	<1	<1	<1	<1	<1
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	11.8	5.59	17.5	69.7	74.8	117	67.4	79.8
Certified Reference Material Nist 1941b (% Recovery)			70	114	66	72	64	78	78	94
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

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For full analyte name see method summaries.

*See report notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	UKAS/MMO	MMO	MMO	MMO	MMO	MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BKF***	**C1N**	**C1PHEN**	**C2N**	**C3N**	**CHRYSENE***	**DBENZAH**	**FLUORANT**
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	65.7	89.4	103	92.1	77.6	88.8	16.7	115
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	75.4	60.8	93.0	62.4	57.4	103	16.3	215
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<1	1.61	1.54	1.65	<1	<1	<1	<1
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	75.0	83.7	95.1	75.9	61.6	103	19.1	135
Certified Reference Material Nist 1941b (% Recovery)			75	75	89	114	128	96	120	86
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

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*See report notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	mg/Kg
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/305
		Limit of Detection	1	1	1	1	1	1	1
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**FLUORENE**	**INDPYR**	**NAPTH**	**PERYLENE**	**PHENANT**	**PYRENE**	**THC**
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	26.0	71.9	47.2	60.4	90.3	88.1	6.73
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	21.1	70.6	28.9	32.1	121	176	27.6
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<1	<1	<1	2.01	<1	<1	1.09
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	24.6	75.8	38.6	51.0	88.6	99.1	13.9
Certified Reference Material Nist 1941b (% Recovery)			49	83	59	64	84	76	92~
QC Blank			<1	<1	<1	<1	<1	<1	<1

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**	**BENZGHIP**	**BEP**
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	281	1010	1820	3010	2630	2070	1160	1520
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	18.0	10.2	25.8	70.3	81.3	144	87.6	95.0
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<5	<5	<5	1.18	<5	<5	<5	<5
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<5	<5	<5	2.71	<5	6.93	6.97	8.07
Certified Reference Material Nist 1941b (% Recovery)			72	116	72	71	60	79	72	90
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

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For full analyte name see method summaries.

*See report notes

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	UKAS/MMO	MMO	MMO	MMO	MMO	MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BKF***	**C1N**	**C1PHEN**	**C2N**	**C3N**	**CHRYSENE***	**DBENZAH**	**FLUORANT**
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<5	19.2	27.8	26.8	20.5	7.72	<5	<5
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<5	<5	9.59	9.12	11.0	<5	<5	<5
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<5	7.47	7.60	12.3	<5	<5	<5	<5
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	2250	401	2800	748	570	3060	305	9990
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<5	10.7	11.8	13.9	9.25	<5	<5	7.81
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<5	15.1	23.9	22.9	23.4	7.37	<5	<5
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	72.9	195	191	161	121	120	20.5	170
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<5	8.92	8.23	10.9	9.32	<5	<5	<5
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<5	25.8	34.0	32.1	29.9	9.16	<5	7.35
Certified Reference Material Nist 1941b (% Recovery)			76	79	89	118	122	94	115	90
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

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For full analyte name see method summaries.

*See report notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	mg/Kg
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/305
		Limit of Detection	1	1	1	1	1	1	1
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**FLUORENE**	**INDPYR**	**NAPTH**	**PERYLENE**	**PHENANT**	**PYRENE**	**THC**
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<5	<5	<5	13.8	14.7	7.85	<1
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<5	<5	<5	<5	<5	<5	1.07
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<5	<5	<5	<5	<5	<5	<1
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<5	<5	<5	<5	<5	<5	2.63
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	1620	1340	244	757	9480	6610	157
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<5	<5	<5	8.23	9.49	7.19	1.34
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<5	<5	<5	16.0	14.9	6.28	1.46
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	46.2	97.0	88.6	40.4	146	121	23.4
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<5	<5	<5	9.32	<5	<5	1.00
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<5	<5	<5	21.7	20.1	9.04	1.80
Certified Reference Material Nist 1941b (% Recovery)			50	72	66	58	87	78	95~
QC Blank			<1	<1	<1	<1	<1	<1	<1

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For full analyte name see method summaries.

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Certificate of Analysis

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 101**	**PCB 105**	**PCB 110**	**PCB 118**	**PCB 128**	**PCB 138**	**PCB 141**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	0.00008	<0.00008	0.00009	0.00009	<0.00008	<0.00008	<0.00008
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	0.00009	0.00010	0.00014	0.00016	<0.00008	0.00021	<0.00008
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	0.00009	<0.00008	<0.00008	<0.00008	<0.00008	0.00009	<0.00008
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	0.00020	0.00015	0.00030	0.00039	0.00011	0.00055	0.00015
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	0.00442	0.00066	0.00230	0.00194	0.00095	0.01120	0.00449
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	0.00027	<0.00008	0.00010	<0.00008	0.00008	0.00028	0.00016
Certified Reference Material Nist 1941b (% Recovery)			81	92	96	97	113	106	113~
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 149**	**PCB 151**	**PCB 153**	**PCB 156**	**PCB 158**	**PCB 170**	**PCB 18**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	<0.00008	<0.00008	<0.00010	<0.00010	<0.00010	<0.00008	<0.00008
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	0.00009	<0.00008	<0.00010	<0.00010	<0.00010	<0.00008	<0.00008
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	0.00014	<0.00008	0.00023	<0.00010	<0.00010	0.00009	0.00012
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	0.00015	<0.00008	<0.00010	<0.00010	<0.00010	<0.00008	<0.00008
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	0.00033	0.00013	0.00054	<0.00010	<0.00010	0.00013	0.00026
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	0.01536	0.00572	0.01934	0.00057	0.00121	0.00831	0.00049
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	0.00047	0.00020	0.00062	<0.00010	<0.00010	0.00012	0.00010
Certified Reference Material Nist 1941b (% Recovery)			86	121~	100	78	96	99	88
QC Blank			<0.00008	<0.00008	<0.00010*	<0.00010*	<0.00010*	<0.00008	<0.00008

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 180**	**PCB 183**	**PCB 187**	**PCB 194**	**PCB 28**	**PCB 31**	**PCB 44**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	<0.00008	<0.00010	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	<0.00008	<0.00010	<0.00008	<0.00008	0.00017	0.00014	<0.00008
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	0.00022	<0.00010	0.00009	<0.00008	0.00022	0.00018	<0.00008
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	0.00023	<0.00010	0.00017	<0.00008	<0.00008	<0.00008	<0.00008
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	0.00040	<0.00010	0.00021	0.00009	0.00059	0.00041	0.00017
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	0.02342	0.00595	0.01438	0.00566	0.00104	0.00082	0.00055
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	0.00054	<0.00010	0.00033	0.00009	0.00021	0.00014	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			111	86	96	88	68	89	87
QC Blank			<0.00008	<0.00010*	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

*See report notes

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 47**	**PCB 49**	**PCB 52**	**PCB 66**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	<0.00008	0.00008	0.00009	0.00014
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	<0.00008	0.00010	0.00011	0.00021
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	<0.00008	0.00020	0.00032	0.00051
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	0.00031	0.00088	0.00126	0.00117
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	<0.00008	0.00012	0.00014	0.00012
Certified Reference Material Nist 1941b (% Recovery)			107~	95	91	92
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 101**	**PCB 105**	**PCB 110**	**PCB 118**	**PCB 128**	**PCB 138**	**PCB 141**
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	0.00033	0.00019	0.00039	0.00035	<0.00008	0.00060	0.00009
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	0.00025	0.00016	0.00030	0.00043	0.00011	0.00040	0.00009
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	0.00019	0.00011	0.00015	0.00022	0.00010	0.00026	<0.00008
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	0.00029	0.00015	0.00028	0.00032	<0.00008	0.00038	<0.00008
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			84	87	102	87	133	99	127~
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 149**	**PCB 151**	**PCB 153**	**PCB 156**	**PCB 158**	**PCB 170**	**PCB 18**
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	0.00050	0.00014	0.00078	<0.00008	0.00009	0.00012	0.00029
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	0.00029	<0.00008	0.00061	<0.00008	0.00009	0.00013	0.00019
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	0.00017	<0.00008	0.00043	<0.00008	<0.00008	<0.00008	0.00018
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	0.00042	<0.00008	0.00045	<0.00008	<0.00008	0.00011	0.00024
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			95	117~	97	105	124	95	79
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 180**	**PCB 183**	**PCB 187**	**PCB 194**	**PCB 28**	**PCB 31**	**PCB 44**
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	0.00037	0.00013	0.00024	0.00009	0.00051	0.00050	0.00023
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	0.00032	0.00009	0.00020	0.00008	0.00057	0.00043	0.00018
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	0.00016	<0.00008	0.00016	<0.00008	0.00044	0.00033	0.00012
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	0.00028	<0.00008	0.00012	<0.00008	0.00046	0.00035	0.00021
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			97	83	111	90	67	82	99
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 47**	**PCB 49**	**PCB 52**	**PCB 66**
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	0.00010	0.00024	0.00030	0.00050
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	0.00012	0.00025	0.00026	0.00053
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	0.00008	0.00013	0.00016	0.00035
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	0.00010	0.00023	0.00024	0.00038
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			119~	103	96	99
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 101**	**PCB 105**	**PCB 110**	**PCB 118**	**PCB 128**	**PCB 138**	**PCB 141**
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	0.00356	0.00029	0.00162	0.00114	0.00040	0.00306	0.00082
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	0.00041	0.00031	0.00057	0.00054	0.00015	0.00075	0.00010
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	0.00013	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			84	100	97	86	101	97	109~
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 149**	**PCB 151**	**PCB 153**	**PCB 156**	**PCB 158**	**PCB 170**	**PCB 18**
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	0.00720	0.00234	0.00886	0.00024	0.00053	0.00244	0.00089
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	0.00046	0.00007	0.00101	0.00009	0.00010	0.00021	0.00044
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			89	100~	94	80	52	102	84
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 180**	**PCB 183**	**PCB 187**	**PCB 194**	**PCB 28**	**PCB 31**	**PCB 44**
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	0.00633	0.00164	0.00432	0.00151	0.00288	0.00230	0.00131
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	0.00059	0.00012	0.00032	0.00013	0.00115	0.00082	0.00043
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			94	66	103	72	68	84	87
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 47**	**PCB 49**	**PCB 52**	**PCB 66**
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	0.00089	0.00248	0.00311	0.00230
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	0.00022	0.00048	0.00048	0.00106
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			107~	94	89	98
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)							
		Method No	ASC/SOP/302							
		Limit of Detection	0.0001							
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**AHCH**	**BHCH**	**GHCH**	**DIELDRIN**	**HCB**	**PPTDE**	**PPDDE**	**PPDDT**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	<0.0001
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.0007	0.0002	<0.0001
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	<0.0001	<0.0001	<0.0001	0.0003	<0.0001	0.0003	<0.0001	0.0008
Certified Reference Material Nist 1941b (% Recovery)			109~	102~	112~	95~	153	56	72	99~
QC Blank			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

For full analyte name see method summaries.

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)							
		Method No	ASC/SOP/302							
		Limit of Detection	0.0001							
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**AHCH**	**BHCH**	**GHCH**	**DIELDRIN**	**HCB**	**PPTDE**	**PPDDE**	**PPDDT**
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	<0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0002	0.0002	<0.0001
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	0.0003	0.0001	<0.0001
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	0.0002	<0.0001	<0.0001
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<0.0001	<0.0001	<0.0001	0.0004	<0.0001	<0.0001	<0.0001	<0.0001
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Certified Reference Material Nist 1941b (% Recovery)			105~	98~	107~	104~	145	65	84	100~
QC Blank			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

For full analyte name see method summaries.

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)							
		Method No	ASC/SOP/302							
		Limit of Detection	0.0001							
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**AHCH**	**BHCH**	**GHCH**	**DIELDRIN**	**HCB**	**PPTDE**	**PPDDE**	**PPDDT**
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	<0.0001	<0.0001	0.0001	0.0003	0.0002	0.0075	0.0011	0.0023
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	<0.0001	<0.0001	<0.0001	0.0003	0.0001	0.0002	0.0002	<0.0001
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Certified Reference Material Nist 1941b (% Recovery)			107~	89~	114~	110~	119	55	77	95~
QC Blank			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

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For full analyte name see method summaries.

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308
		Limit of Detection	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BDE17**	**BDE28**	**BDE47**	**BDE66**	**BDE85**	**BDE99**	**BDE100**	**BDE138**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	<0.00005	<0.00005	0.00006	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Certified Reference Material Quasimeme SED56 (% Recovery)			86~	111	112	95~	92~	101	93	100~
QC Blank			<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005

* See Report Notes

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308
		Limit of Detection	0.00005	0.00005	0.00005	0.0001
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BDE153**	**BDE154**	**BDE183**	**BDE209**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	<0.00005	<0.00005	<0.00005	0.0134
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	<0.00005	<0.00005	<0.00005	0.0050
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	<0.00005	<0.00005	<0.00005	0.0041
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	<0.00005	<0.00005	<0.00005	0.0027
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	<0.00005	<0.00005	<0.00005	0.0071
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	<0.00005	<0.00005	<0.00005	<0.001
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	<0.005	<0.005	<0.005	0.0037
Certified Reference Material Quasimeme SED56 (% Recovery)			124	90~	138	76
QC Blank			<0.00005	<0.00005	<0.00005	<0.001*

* See Report Notes

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308
		Limit of Detection	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BDE17**	**BDE28**	**BDE47**	**BDE66**	**BDE85**	**BDE99**	**BDE100**	**BDE138**
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	<0.00005	<0.00005	0.00006	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	<0.00005	<0.00005	0.00006	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	<0.00005	<0.00005	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<0.00005	<0.00005	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Certified Reference Material Quasimeme SED56 (% Recovery)			84~	109	103	90~	85~	103	99	94~
QC Blank			<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005

* See Report Notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308
		Limit of Detection	0.00005	0.00005	0.00005	0.0001
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BDE153**	**BDE154**	**BDE183**	**BDE209**
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	<0.00005	<0.00005	<0.00005	0.0276
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	<0.00005	<0.00005	<0.00005	<0.0006
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	<0.00005	<0.00005	<0.00005	0.0166
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	<0.00005	<0.00005	<0.00005	0.0269
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	<0.00005	<0.00005	<0.00005	0.0029
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<0.00005	<0.00005	<0.00005	<0.0006
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	<0.00005	<0.00005	<0.00005	0.0050
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<0.00005	<0.00005	<0.00005	<0.0006
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<0.00005	<0.00005	<0.00005	0.0024
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<0.00005	<0.00005	<0.00005	<0.0006
Certified Reference Material Quasimeme SED56 (% Recovery)			130	83~	90	74
QC Blank			<0.00005	<0.00005	<0.00005	<0.0006*

* See Report Notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308
		Limit of Detection	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BDE17**	**BDE28**	**BDE47**	**BDE66**	**BDE85**	**BDE99**	**BDE100**	**BDE138**
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	<0.00005	<0.00005	0.00015	<0.00005	<0.00005	0.00014	<0.00005	<0.00005
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<0.00005	<0.00005	0.00009	<0.00005	<0.00005	0.00008	<0.00005	<0.00005
Certified Reference Material Quasimeme SED56 (% Recovery)			86~	116	102	89~	87~	106	103	93~
QC Blank			<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005

* See Report Notes

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308
		Limit of Detection	0.00005	0.00005	0.00005	0.0001
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BDE153**	**BDE154**	**BDE183**	**BDE209**
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<0.00005	<0.00005	<0.00005	0.0008
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	<0.00005	<0.00005	<0.00005	0.0029
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<0.00005	<0.00005	<0.00005	0.0007
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<0.00005	<0.00005	<0.00005	0.0021
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	<0.00005	<0.00005	<0.00005	0.0144
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<0.00005	<0.00005	<0.00005	<0.0006
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<0.00005	<0.00005	<0.00005	0.0030
Certified Reference Material Quasimeme SED56 (% Recovery)			113	85~	100	73
QC Blank			<0.00005	<0.00005	<0.00005	<0.0006*

* See Report Notes

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
*SUB_01	MAR02604.001-024	Analysis was conducted by an approved subcontracted laboratory.
WSLM59*	MAR02604.001-024	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
ICPMSS*	MAR02604.001-024	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
LOI(%MM)*	MAR02604.001-024	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
KONENS*	MAR02604.001-024	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
ASC/SOP/301	MAR02604.002-008, .010-012, .014-015, .019-024	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/302	MAR02604.001-007	The Primary process control blank data associated with this Test has not wholly met the requirements of the Laboratory Quality Management System QMS with PCB156, 158, 170 & 183 falling above acceptable reporting limits. The remaining data gives the Laboratory confidence that the test has performed satisfactorily and that the validity of the data may not have been significantly affected.However in line with our QMS policy the report limit for this compound has been raised and samples have been blank subtracted.
ASC/SOP/303/304	MAR02604.015-024	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/303/304	MAR02604.001-024	Benzo[k]fluoranthene is known to coelute with Benzo[j]fluoranthene and these peaks can not be resolved. It is believed Benzo[j]fluoranthene is present in these samples therefore it is suggested that the Benzo[k]fluoranthene results should be taken as a Benzo[k]fluoranthene (inc. Benzo[j]fluoranthene). Benzo[j]fluoranthene is not UKAS accredited. This should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR02604.001-024	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved in the PAHSED UKAS accredited method. Chrysene and Triphenylene are resolved for MMO but this is currently not UKAS accredited therefore Chrysene is reported without this acccreditation.
ASC/SOP/308	MAR02604.007	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/308	MAR02604.001-024	The Primary process control blank data associated with this Test has not wholly met the requirements of the Laboratory Quality Management System QMS with BDE209 falling above acceptable reporting limits. The remaining data gives the Laboratory confidence that the test has performed satisfactorily and that the validity of the data may not have been significantly affected.However in line with our QMS policy the report limit for this compound has been raised and samples have been blank subtracted.

DEVIATING SAMPLE STATEMENT

Deviation Code	Deviation Definition	Sample ID	Deviation Details. The following information should be taken into consideration when using the data contained within this report
D1	Holding Time Exceeded	N/A	N/A
D2	Sample Contaminated through Damaged Packaging	N/A	N/A
D3	Sample Contaminated through Sampling	N/A	N/A
D4	Inappropriate Container/Packaging	N/A	N/A
D5	Damaged in Transit	N/A	N/A
D6	Insufficient Quantity of Sample	N/A	N/A
D7	Inappropriate Headspace	N/A	N/A
D8	Retained at Incorrect Temperature	N/A	N/A
D9	Lack of Date & Time of Sampling	N/A	N/A
D10	Insufficient Sample Details	N/A	N/A
D11	Sample integrity compromised or not suitable for analysis	N/A	N/A

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Test Report ID	MAR02604
Issue Version	1
Customer Reference	Fishguard - MMO/RPS Chem suite

Method	Sample and Fraction Size	Method Summary
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Total Organic Carbon (TOC)	Air dried	Carbonate removal and sulphurous acid/combustion at 1600°C/NDIR.
LOI @ 450	Air dried	Determination of loss on ignition at 450°C by gravimetry
Chromium VI as Cr	Air dried	Colorimetric Analysis
Metals	Air dried	Aqua-regia extraction followed by ICP analysis.
Organotins	Wet Sediment	Solvent extraction and derivatisation followed by GC-MS analysis.
Polyaromatic Hydrocarbons (PAH)	Wet Sediment	Solvent extraction and clean up followed by GC-MS analysis.
Total Hydrocarbon Content (THC)	Wet Sediment	Ultra-violet fluorescence spectroscopy
Polychlorinated Biphenyls (PCBs)	Air dried and seived to <2mm	Solvent extraction and clean up followed by GC-MS-MS analysis.
Organochlorine Pesticides (OCPs)	Air dried and seived to <2mm	Solvent extraction and clean up followed by GC-MS-MS analysis.
Brominated Flame Retardants (PBDEs)	Air dried and seived to <2mm	Solvent extraction and clean up followed by GC-MS-MS analysis.

Analyte Definitions

Analyte Abbreviation	Full Analyte name	Analyte Abbreviation	Full Analyte name	Analyte Abbreviation	Full Analyte name
ACENAPTH	Acenaphthene	C2N	C2-naphthalenes	THC	Total Hydrocarbon Content
ACENAPHY	Acenaphthylene	C3N	C3-naphthalenes	AHCH	alpha-Hexachlorocyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorocyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorocyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	PPDDE	p,p'-Dichlorodiphenyldichloroethylene
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	PPDDT	p,p'-Dichlorodiphenyltrichloroethane
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	PPTDE	p,p'-Dichlorodiphenyldichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

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Certificate of Analysis

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

SOCOTEC

Test Report ID MAR02604

Issue Version: 1

Customer: InSitu SI, Unit 2 Rotherham Business Park, Chesterton Road, Rotherham, S65 1SE

Customer Reference: Fishguard - RPS Waste Suite

Date Sampled: 18-Mar-25

Date Samples Received: 20-Mar-25

Test Report Date: 10-Apr-25

Condition of samples: Frozen Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditation
The results reported relate only to the sample tested
The results apply to the sample as received

JMColbourne

Authorised by: Jane Colbourne

Position: Customer Service Specialist

UKAS TESTING
1252

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
			45mm	31.5mm	22.4mm	16mm	11.2mm	8mm	5.6mm
Client Reference:	SOCOTEC Ref:	Matrix	-5.5	-5.0	-4.5	-4.0	-3.5	-3.0	-2.5
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.05
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.04
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	0.00	0.00	0.00	0.00	0.00	0.24	0.00
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.03
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	0.00	6.31	12.08	10.12	2.82	3.81	5.30
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	0.00	0.00	0.00	1.81	1.46	0.00	0.49
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.25
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	0.00	0.00	0.00	0.00	0.00	0.03	0.03
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.03
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	0.00	0.00	0.00	0.00	0.00	0.13	0.55
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	0.00	0.00	0.00	0.00	0.00	0.86	0.27
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	0.00	0.00	0.00	0.00	0.46	0.00	0.49
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.06
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	0.00	0.00	0.00	0.00	0.08	0.00	0.10
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.02
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.03
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	0.00	0.00	0.00	2.00	0.50	0.70	0.91
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.21
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* See Report Notes

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
			4mm	2.8mm	2mm	1.4mm	1mm	707µm	500µm
Client Reference:	SOCOTEC Ref:	Matrix	-2.0	-1.5	-1.0	-0.5	0.0	0.5	1.0
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	0.05	0.05	0.05	0.07	0.10	0.00	0.00
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	0.02	0.05	0.05	0.07	0.07	0.57	1.49
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	0.07	0.15	0.18	0.24	0.26	0.00	0.00
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	0.00	0.03	0.03	0.03	0.03	0.00	0.00
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	0.03	0.03	0.03	0.03	0.03	0.00	0.00
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	0.02	0.02	0.02	0.02	0.07	0.00	0.00
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	3.73	5.38	4.69	4.20	4.39	3.27	3.39
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	0.64	0.92	1.15	1.43	1.76	2.39	2.91
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	0.19	0.50	0.41	0.58	1.08	2.59	1.68
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	0.03	0.03	0.03	0.11	0.14	0.00	0.11
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	0.03	0.05	0.11	0.16	0.25	0.00	0.22
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	0.36	0.55	0.39	0.60	0.68	0.00	0.05
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	0.20	0.35	0.22	0.38	0.46	0.34	2.35
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	0.46	0.68	1.01	1.04	1.69	0.00	0.00
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	0.15	0.21	0.25	0.29	0.25	0.00	0.52
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	0.12	0.20	0.24	0.24	0.20	0.00	0.00
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	0.00	0.00	0.02	0.02	0.02	0.00	0.01
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	0.02	0.02	0.02	0.02	0.02	0.00	0.00
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	0.03	0.03	0.03	0.06	0.22	0.00	0.00
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	1.28	2.09	1.94	2.35	3.68	0.00	0.02
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	0.15	0.15	0.32	0.41	0.52	0.00	1.67
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	0.00	0.03	0.03	0.03	0.03	0.00	0.00
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	0.07	0.19	0.23	0.30	0.23	0.00	0.00
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	0.06	0.03	0.06	0.03	0.03	0.00	0.00

* See Report Notes

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
			353.6µm	250µm	176.8µm	125µm	88.39µm	63µm	44.2µm
Client Reference:	SOCOTEC Ref:	Matrix	1.5	2.0	2.5	3.0	3.5	4.0	4.5
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	1.99	10.85	21.94	25.58	17.69	7.02	1.90
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	2.64	5.00	7.77	8.72	7.12	5.37	5.25
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	0.43	6.46	12.75	13.34	8.61	4.33	3.33
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	0.02	2.38	5.53	6.77	6.18	5.59	6.00
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	0.29	1.73	3.38	4.57	5.14	5.51	6.10
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	0.00	2.06	9.38	14.64	13.36	8.28	4.62
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	2.80	2.73	3.42	3.99	3.52	2.27	1.30
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	4.66	10.00	16.37	18.35	13.39	6.26	2.31
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	2.28	9.35	20.17	25.47	19.49	8.60	1.85
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	1.05	2.60	3.90	4.63	4.76	4.97	5.71
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	1.48	3.32	5.25	6.74	7.06	6.65	6.44
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	1.39	4.64	8.27	10.29	9.34	6.83	5.17
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	9.77	22.04	28.18	21.32	7.76	0.75	0.02
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	0.66	4.43	8.11	9.79	9.14	7.51	6.34
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	1.80	4.26	7.62	9.89	9.40	7.27	5.56
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	2.23	11.51	21.98	24.47	16.29	6.16	1.49
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	1.58	14.42	33.10	33.46	13.84	1.42	0.00
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	1.40	12.15	24.86	28.18	18.46	6.41	0.94
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	0.32	1.26	2.42	3.90	5.75	8.16	10.74
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	0.86	2.77	5.26	8.07	9.34	8.10	6.02
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	9.56	13.38	9.20	3.76	1.80	2.53	3.49
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	0.20	2.09	4.35	5.74	6.33	6.71	7.16
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	0.00	1.65	8.06	15.17	17.71	14.02	8.24
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	0.00	0.00	0.54	2.79	4.62	5.17	5.55

* See Report Notes

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
			31.3µm	22.1µm	15.6µm	11µm	7.8µm	5.5µm	3.9µm
Client Reference:	SOCOTEC Ref:	Matrix	5.0	5.5	6.0	6.5	7.0	7.5	8.0
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	1.56	2.06	1.81	1.47	1.45	1.47	1.25
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	6.06	6.58	6.67	6.87	7.14	6.92	5.86
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	4.08	4.65	4.81	5.23	6.02	6.53	6.16
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	6.86	7.45	7.81	8.39	8.93	8.64	7.24
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	6.70	6.90	6.84	7.26	8.30	9.12	8.81
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	3.79	4.31	4.76	5.19	5.80	6.17	5.77
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	1.00	1.06	1.11	1.12	1.16	1.21	1.15
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	1.60	1.80	1.64	1.40	1.40	1.48	1.40
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	0.41	0.90	0.92	0.61	0.51	0.60	0.61
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	6.62	7.27	7.73	8.46	9.24	9.32	8.21
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	6.45	6.37	6.27	6.57	7.25	7.70	7.21
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	4.79	4.93	5.02	5.25	5.72	6.09	5.81
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	0.42	0.75	0.66	0.51	0.50	0.55	0.53
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	5.76	5.40	5.24	5.45	5.84	5.88	5.19
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	4.81	4.63	4.64	4.88	5.33	5.72	5.63
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	1.33	1.97	1.84	1.54	1.51	1.58	1.47
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	0.00	0.05	0.35	0.42	0.33	0.28	0.28
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	0.73	1.35	1.09	0.71	0.70	0.82	0.80
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	11.93	10.61	8.20	6.63	6.35	6.41	5.78
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	4.64	4.20	4.18	4.36	4.66	4.83	4.60
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	4.01	4.41	4.79	5.19	5.61	5.93	5.81
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	7.44	7.45	7.52	7.94	8.40	8.27	7.18
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	4.29	3.11	3.22	3.40	3.48	3.55	3.43
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	6.33	7.19	7.69	8.09	8.54	8.83	8.53

* See Report Notes

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
			2.75µm	**1.95µm**	**1.38µm**	**0.98µm**	**0.69µm**	**0.49µm**	**0.34µm**
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**8.5**	**9.0**	**9.5**	**10.0**	**10.5**	**11.0**	**11.5**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	0.87	0.49	0.24	0.04	0.00	0.00	0.00
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	4.19	2.46	1.24	0.86	0.79	0.15	0.00
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	4.86	3.10	1.63	1.12	1.19	0.41	0.00
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	5.13	3.00	1.50	1.04	0.99	0.20	0.00
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	7.27	4.87	2.61	1.76	1.92	0.72	0.00
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	4.58	2.96	1.58	1.10	1.14	0.37	0.00
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	0.96	0.67	0.38	0.26	0.28	0.11	0.00
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	1.14	0.77	0.43	0.29	0.29	0.07	0.00
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	0.51	0.34	0.11	0.00	0.00	0.00	0.00
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	6.15	3.79	1.95	1.34	1.37	0.42	0.00
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	5.69	3.63	1.91	1.32	1.38	0.47	0.00
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	4.76	3.22	1.81	1.34	1.46	0.56	0.00
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	0.43	0.29	0.09	0.00	0.00	0.00	0.00
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	3.85	2.34	1.20	0.86	0.90	0.28	0.00
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	4.93	3.74	2.45	2.07	2.44	1.16	0.05
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	1.19	0.84	0.52	0.39	0.40	0.11	0.00
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	0.26	0.14	0.00	0.00	0.00	0.00	0.00
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	0.64	0.42	0.21	0.00	0.00	0.00	0.00
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	4.36	2.69	1.43	1.09	1.17	0.37	0.00
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	3.91	2.88	1.81	1.47	1.73	0.80	0.03
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	5.08	3.85	2.52	2.13	2.51	1.17	0.05
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	5.32	3.25	1.68	1.21	1.26	0.38	0.00
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	2.95	2.16	1.36	1.13	1.30	0.55	0.00
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	7.51	5.81	3.84	3.20	3.73	1.76	0.07

* See Report Notes

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
			0.24µm	**0.17µm**	**0.12µm**	**0.09µm**	**0.06µm**	**0.04µm**	**<0.04µm**
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**12.0**	**12.5**	**13.0**	**13.5**	**14.0**	**14.5**	**>14.5**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* See Report Notes

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Certificate of Analysis

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

Test Report ID	MAR02604
Issue Version	1
Customer Reference	Fishguard - RPS Waste Suite

		Units	%	%	% m/m	%m/m	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/303	ASC/SOP/303	WSLM59*	ANC*	ICPMS-MWSED*	ICPMS-MWSED*
		Limit of Detection	0.2	0.2	0.02	0.12	0.14	0.03
		Accreditation	UKAS	UKAS	UKAS	No	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Total Moisture @ 120°C**	**Total Solids**	**TOC**	**Carbonate Equivalent (%CO3)**	**Arsenic as As**	**Cadmium as Cd**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	23.0	77.0	1.46	6.61	12.3	0.09
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	36.4	63.6	0.66	9.44	15.8	0.10
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	29.4	70.6	0.75	9.36	15.6	0.09
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	40.4	59.6	0.56	9.29	16.1	0.09
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	53.0	47.0	1.66	11.2	22.9	0.14
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	28.9	71.1	0.96	10.6	18.9	0.18
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	26.2	73.8	>23.0	4.29	16.2	0.47
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	30.6	69.4	8.31	15.9	22.6	0.46
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	21.1	78.9	0.19	8.38	21.0	0.07
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	38.9	61.1	1.43	11.6	25.8	0.13
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	34.4	65.6	1.45	11.8	26.3	0.14
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	22.7	77.3	1.68	11.1	22.3	0.10
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	20.7	79.3	0.19	5.47	18.5	0.04
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	38.6	61.4	1.15	12.0	23.9	0.11
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	22.3	77.7	0.35	9.01	23.6	0.09
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	20.5	79.5	0.42	5.31	28.3	0.05
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	20.1	79.9	0.09	6.09	19.0	0.04
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	21.0	79.0	0.15	7.83	19.8	0.05
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	32.1	67.9	1.70	11.8	24.7	0.31
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	19.9	80.1	0.35	15.3	15.8	0.09
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	18.2	81.8	0.31	6.57	17.2	0.11
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	48.5	51.5	1.67	12.2	21.8	0.13
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	20.6	79.4	0.37	9.90	19.2	0.09
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	23.7	76.3	0.43	8.79	21.8	0.14
Reference Material (% Recovery)			N/A	N/A	95	99	101	92
QC Blank			N/A	N/A	<0.02	<0.12	<0.14	<0.03

* See Report Notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ICPMS-MWSED*	ICPMS-MWSED*	ICPMS-MWSED*	ICPMS-MWSED*	ICPMS-MWSED*	ICPMS-MWSED*	ICPMS-MWSED*
		Limit of Detection	1	0.7	0.6	1	0.01	0.4	0.5
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Chromium as Cr**	**Copper as Cu**	**Lead as Pb**	**Manganese as Mn**	**Mercury as Hg**	**Nickel as Ni**	**Tin as Sn**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	31.5	7.3	17.9	278	0.03	13.6	1.7
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	44.1	15.8	20.7	382	0.04	19.7	3.1
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	44.6	11.3	21.9	353	0.04	20.1	2.9
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	38.2	9.8	18.0	357	0.03	17.2	2.5
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	67.4	17.3	36.7	572	0.08	30.1	6.0
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	55.8	17.6	48.1	446	0.11	24.3	5.0
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	22.1	26.2	208	142	2.12	23.6	6.6
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	23.4	14.6	95.8	357	0.14	14.7	2.3
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	33.3	7.3	10.8	292	<0.01	15.6	1.9
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	72.8	19.1	38.7	645	0.07	33.1	5.5
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	69.5	23.3	36.8	554	0.06	30.3	5.2
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	44.2	18.5	46.2	376	0.04	20.2	8.0
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	23.3	6.6	10.3	234	<0.01	11.6	1.2
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	52.7	15.8	43.5	387	0.05	23.7	4.1
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	58.9	13.0	15.9	491	<0.01	27.4	2.0
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	33.3	8.9	11.0	287	0.01	15.4	1.6
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	26.0	6.5	9.6	259	0.01	12.2	1.4
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	30.7	7.8	10.9	318	0.04	14.1	2.2
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	60.2	30.1	79.6	457	0.36	26.8	11.3
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	35.6	7.7	11.0	367	<0.01	15.6	1.9
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	49.8	11.6	14.2	469	<0.01	23.8	2.0
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	70.0	18.4	43.5	581	0.07	32.4	7.1
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	54.9	10.4	15.4	464	<0.01	25.0	2.2
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	73.3	15.3	19.4	609	<0.01	34.3	2.6
		Reference Material (% Recovery)	86	87	87	90	91	96	86
		QC Blank	<1	<0.7	<0.6	<1	<0.01	<0.4	<0.5

* See Report Notes

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ICPMS-MWSED*	ICPOES-MWSED*	ICPOES-MWSED*
		Limit of Detection	3.5	1750	860
		Accreditation	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Zinc as Zn**	**Aluminium as Al**	**Iron as Fe**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	47.1	33900	17000
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	67.7	41500	21900
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	69.1	40100	21600
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	56.9	39100	20300
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	104	52400	28400
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	107	48600	26300
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	155	19900	11000
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	755	25200	42000
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	57.5	45700	22200
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	114	61000	31800
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	108	54400	28900
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	77.1	41600	22000
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	33.6	29800	15500
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	80.9	47800	25900
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	61.6	56000	30400
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	42.7	28400	16100
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	32.0	29100	15800
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	36.8	31500	17100
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	154	47100	27300
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	44.0	37900	17700
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	57.0	45100	23300
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	117	58600	31900
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	61.8	46200	25000
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	73.7	57400	31200
		Reference Material (% Recovery)	89	90	102
		QC Blank	<3.5	<1750	<2

* See Report Notes

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Certificate of Analysis

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

Test Report ID	MAR02604
Issue Version	1
Customer Reference	Fishguard - RPS Waste Suite

		Units	mg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	0.001	0.001
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	<0.001	<0.001
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	<0.005	<0.005
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	<0.005	<0.005
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	<0.005	<0.005
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	<0.005	<0.005
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	<0.005	<0.005
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	<0.005	<0.005
Certified Reference Material BCR-646 (% Recovery)			80	65
QC Blank			<0.001	<0.001

* See Report Notes

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

		Units	mg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	0.001	0.001
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	<0.005	<0.005
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	<0.001	<0.001
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	<0.005	<0.005
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	<0.005	<0.005
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	<0.005	<0.005
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<0.001	<0.001
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	<0.005	<0.005
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<0.005	<0.005
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<0.001	<0.001
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<0.001	<0.001
Certified Reference Material BCR-646 (% Recovery)			81	66
QC Blank			<0.001	<0.001

* See Report Notes

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Certificate of Analysis

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

Test Report ID	MAR02604
Issue Version	1
Customer Reference	Fishguard - RPS Waste Suite

		Units	mg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	0.001	0.001
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<0.001	<0.001
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	<0.005	<0.005
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<0.005	<0.005
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<0.005	<0.005
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	<0.005	<0.005
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<0.005	<0.005
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<0.005	<0.005
Certified Reference Material BCR-646 (% Recovery)			70	56
QC Blank			<0.001	<0.001

* See Report Notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**	**BENZGHIP**	**BKF***
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	1.72	<1	2.01	3.57	4.05	6.13	4.85	5.41
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	7.50	2.93	10.2	28.0	27.8	35.5	26.5	25.6
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	4.02	2.49	9.31	23.1	24.4	34.8	24.6	25.1
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	3.65	1.87	5.77	13.4	14.4	20.8	15.7	14.4
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	9.17	6.18	13.6	43.5	47.7	64.5	46.9	44.9
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	20.8	8.03	25.8	88.7	116	161	98.3	114
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	137	34.1	370	574	596	611	296	475
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	29.1	19.5	112	174	288	327	92.8	304
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	1.81	1.85	13.2	30.4	24.3	18.2	10.8	19.4
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	15.2	4.26	16.9	60.2	71.6	107	64.4	71.0
Certified Reference Material Nist 1941b (% Recovery)			71	111	70	68	57	83	71	72
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

For full analyte name see method summaries.

*See report notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	N	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**CHRYSENE***	**DBENZAH**	**FLUORANT**	**FLUORENE**	**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	6.40	1.44	9.74	3.10	5.03	6.26	9.25	8.14
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	52.0	6.69	50.2	11.0	30.0	18.5	36.5	39.4
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	36.2	6.32	46.4	9.50	27.8	18.8	36.8	35.2
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	22.8	3.44	32.4	7.96	16.2	13.6	28.2	24.3
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	66.7	9.55	93.4	21.7	51.0	44.1	75.5	69.8
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	130	27.2	166	34.5	115	54.2	112	157
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	773	83.9	1490	256	315	248	1250	1870
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	257	22.9	328	44.3	94.7	42.9	144	1030
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	28.6	2.75	74.4	3.32	12.2	1.93	24.1	61.8
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	97.8	14.2	132	25.8	73.2	42.8	102	103
Certified Reference Material Nist 1941b (% Recovery)			92	112	86	46	75	61	85	76
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

For full analyte name see method summaries.

*See report notes

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**	**BENZGHIP**	**BKF***
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	12.0	5.23	18.5	58.8	64.3	103	62.2	65.7
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	17.5	6.76	27.6	83.1	78.4	107	62.1	75.4
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<1	<1	<1	<1	<1	<1	<1	<1
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	11.8	5.59	17.5	69.7	74.8	117	67.4	75.0
Certified Reference Material Nist 1941b (% Recovery)			70	114	66	72	64	78	78	75
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	N	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**CHRYSENE***	**DBENZAH**	**FLUORANT**	**FLUORENE**	**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	88.8	16.7	115	26.0	71.9	47.2	90.3	88.1
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	103	16.3	215	21.1	70.6	28.9	121	176
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<1	<1	<1	<1	<1	<1	<1	<1
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	103	19.1	135	24.6	75.8	38.6	88.6	99.1
Certified Reference Material Nist 1941b (% Recovery)			96	120	86	49	83	59	84	76
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**	**BENZGHIP**	**BKF***
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	281	1010	1820	3010	2630	2070	1160	2250
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	18.0	10.2	25.8	70.3	81.3	144	87.6	72.9
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<5	<5	<5	1.18	<5	<5	<5	<5
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<5	<5	<5	2.71	<5	6.93	6.97	<5
Certified Reference Material Nist 1941b (% Recovery)			72	116	72	71	60	79	72	76
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

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For full analyte name see method summaries.

*See report notes

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	N	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**CHRYSENE***	**DBENZAH**	**FLUORANT**	**FLUORENE**	**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	7.72	<5	<5	<5	<5	<5	14.7	7.85
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	3060	305	9990	1620	1340	244	9480	6610
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<5	<5	7.81	<5	<5	<5	9.49	7.19
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	7.37	<5	<5	<5	<5	<5	14.9	6.28
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	120	20.5	170	46.2	97.0	88.6	146	121
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	9.16	<5	7.35	<5	<5	<5	20.1	9.04
Certified Reference Material Nist 1941b (% Recovery)			94	115	90	50	72	66	87	78
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

For full analyte name see method summaries.

*See report notes

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Certificate of Analysis

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

Test Report ID	MAR02604
Issue Version	1
Customer Reference	Fishguard - RPS Waste Suite

		Units	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/306
		Limit of Detection	100
		Accreditation	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**THC**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	8720
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	41200
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	27400
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	23900
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	47400
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	106000
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	561000
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	402000
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	3640
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	69400
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	65500
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	57600
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	3660
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	41700
		In-House Reference Material (% Recovery)	114~
		QC Blank	<100

For full analyte name see method summaries

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.

As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.

*See report notes

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Certificate of Analysis

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

Test Report ID	MAR02604
Issue Version	1
Customer Reference	Fishguard - RPS Waste Suite

		Units	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/306
		Limit of Detection	100
		Accreditation	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**THC**
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	6070
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	6260
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	7130
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	6770
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	305000
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	8180
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	2610
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	58000
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	1910
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	3110
		In-House Reference Material (% Recovery)	112~
		QC Blank	<100

For full analyte name see method summaries

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.

As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.

*See report notes

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 28**	**PCB 52**	**PCB 101**	**PCB 118**	**PCB 138**	**PCB 153**	**PCB 180**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00010	<0.00008
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	0.00017	0.00009	0.00008	0.00009	<0.00008	<0.00010	<0.00008
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	0.00022	0.00011	0.00009	0.00016	0.00021	0.00023	0.00022
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	<0.00008	<0.00008	0.00009	<0.00008	0.00009	<0.00010	0.00023
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	0.00059	0.00032	0.00020	0.00039	0.00055	0.00054	0.00040
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	0.00104	0.00126	0.00442	0.00194	0.01120	0.01934	0.02342
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	0.00021	0.00014	0.00027	<0.00008	0.00028	0.00062	0.00054
Certified Reference Material Nist 1941b (% Recovery)			68	91	81	97	106	100	111
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00010*	<0.00008

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

*See report notes

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 28**	**PCB 52**	**PCB 101**	**PCB 118**	**PCB 138**	**PCB 153**	**PCB 180**
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	0.00051	0.00030	0.00033	0.00035	0.00060	0.00078	0.00037
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	0.00057	0.00026	0.00025	0.00043	0.00040	0.00061	0.00032
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	0.00044	0.00016	0.00019	0.00022	0.00026	0.00043	0.00016
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	0.00046	0.00024	0.00029	0.00032	0.00038	0.00045	0.00028
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			67	96	84	87	99	97	97
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 28**	**PCB 52**	**PCB 101**	**PCB 118**	**PCB 153**	**PCB 180**
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	0.00288	0.00311	0.00356	0.00114	0.00886	0.00633
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	0.00115	0.00048	0.00041	0.00054	0.00101	0.00059
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			68	89	84	86	94	94
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

		Units	mg/Kg (Dry Weight)							
		Method No	ASC/SOP/302							
		Limit of Detection	0.0001							
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**AHCH**	**BHCH**	**GHCH**	**DIELDRIN**	**HCB**	**PPTDE**	**PPDDE**	**PPDDT**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	<0.0001
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.0007	0.0002	<0.0001
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	<0.0001	<0.0001	<0.0001	0.0003	<0.0001	0.0003	<0.0001	0.0008
Certified Reference Material Nist 1941b (% Recovery)			109~	102~	112~	95~	153	56	72	99~
QC Blank			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

For full analyte name see method summaries.

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

		Units	mg/Kg (Dry Weight)							
		Method No	ASC/SOP/302							
		Limit of Detection	0.0001							
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**AHCH**	**BHCH**	**GHCH**	**DIELDRIN**	**HCB**	**PPTDE**	**PPDDE**	**PPDDT**
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	<0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0002	0.0002	<0.0001
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	0.0003	0.0001	<0.0001
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	0.0002	<0.0001	<0.0001
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<0.0001	<0.0001	<0.0001	0.0004	<0.0001	<0.0001	<0.0001	<0.0001
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Certified Reference Material Nist 1941b (% Recovery)			105~	98~	107~	104~	145	65	84	100~
QC Blank			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

For full analyte name see method summaries.

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

		Units	mg/Kg (Dry Weight)							
		Method No	ASC/SOP/302							
		Limit of Detection	0.0001							
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**AHCH**	**BHCH**	**GHCH**	**DIELDRIN**	**HCB**	**PPTDE**	**PPDDE**	**PPDDT**
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	<0.0001	<0.0001	0.0001	0.0003	0.0002	0.0075	0.0011	0.0023
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	<0.0001	<0.0001	<0.0001	0.0003	0.0001	0.0002	0.0002	<0.0001
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Certified Reference Material Nist 1941b (% Recovery)			107~	89~	114~	110~	119	55	77	95~
QC Blank			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

For full analyte name see method summaries.

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
*SUB_01	MAR02604.001-024	Analysis was conducted by an approved subcontracted laboratory.
WSLM59*	MAR02604.001-024	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
ANC*	MAR02604.001-024	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
ICPMS-MWSED*	MAR02604.001-024	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
ICPOES-MWSED*	MAR02604.001-024	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
ASC/SOP/301	MAR02604.002-008, .010-012, .014-015, .019-024	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/303/304	MAR02604.015-024	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/303/304	MAR02604.001-024	Benzo[k]fluoranthene is known to coelute with Benzo[j]fluoranthene and these peaks can not be resolved. It is believed Benzo[j]fluoranthene is present in these samples therefore it is suggested that the Benzo[k]fluoranthene results should be taken as a Benzo[k]fluoranthene (inc. Benzo[j]fluoranthene). Benzo[j]fluoranthene is not UKAS accredited. This should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR02604.001-024	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved in the PAHSED UKAS accredited method. Chrysene and Triphenylene are resolved for MMO but this is currently not UKAS accredited therefore Chrysene is reported without this acccreditation.

DEVIATING SAMPLE STATEMENT

Deviation Code	Deviation Definition	Sample ID	Deviation Details. The following information should be taken into consideration when using the data contained within this report
D1	Holding Time Exceeded	N/A	N/A
D2	Sample Contaminated through Damaged Packaging	N/A	N/A
D3	Sample Contaminated through Sampling	N/A	N/A
D4	Inappropriate Container/Packaging	N/A	N/A
D5	Damaged in Transit	N/A	N/A
D6	Insufficient Quantity of Sample	N/A	N/A
D7	Inappropriate Headspace	N/A	N/A
D8	Retained at Incorrect Temperature	N/A	N/A
D9	Lack of Date & Time of Sampling	N/A	N/A
D10	Insufficient Sample Details	N/A	N/A
D11	Sample integrity compromised or not suitable for analysis	N/A	N/A

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Certificate of Analysis

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

Test Report ID	MAR02604
Issue Version	1
Customer Reference	Fishguard - RPS Waste Suite

Method	Sample and Fraction Size	Method Summary
Total Solids	Wet Sediment	Calculation (100%-Moisture Content).Moisture content determined by drying a portion of the sample at 120°C to constant weight.
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Total Organic Carbon (TOC)	Air dried and seived to <2mm	Carbonate removal and sulphurous acid/combustion at 1600°C/NDIR.
Carbonate	Air dried and seived to <2mm	Quantitative digestion with Hydrochloric Acid back titration with 1M Sodium Hydroxide to pH 7
Metals	Air dried and seived to <2mm	Microwave assisted HF/Boric extraction followed by ICP analysis.
Organotins	Wet Sediment	Solvent extraction and derivatisation followed by GC-MS analysis.
Polyaromatic Hydrocarbons (PAH)	Wet Sediment	Solvent extraction and clean up followed by GC-MS analysis.
Total Hydrocarbon Content (THC)	Wet Sediment	Ultra-violet fluorescence spectroscopy
Polychlorinated Biphenyls (PCBs)	Air dried and seived to <2mm	Solvent extraction and clean up followed by GC-MS-MS analysis.
Organochlorine Pesticides (OCPs)	Air dried and seived to <2mm	Solvent extraction and clean up followed by GC-MS-MS analysis.

Analyte Definitions

Analyte Abbreviation	Full Analyte name	Analyte Abbreviation	Full Analyte name	Analyte Abbreviation	Full Analyte name
ACENAPTH	Acenaphthene	C2N	C2-naphthalenes	THC	Total Hydrocarbon Content
ACENAPHY	Acenaphthylene	C3N	C3-naphthalenes	AHCH	alpha-Hexachlorocyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorocyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorocyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	PPDDE	p,p'-Dichlorodiphenyldichloroethylene
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	PPDDT	p,p'-Dichlorodiphenyltrichloroethane
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	PPTDE	p,p'-Dichlorodiphenyldichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

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17.C

APPENDIX 17.C
Particle Size Analysis and Results

Certificate of Analysis

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

SOCOTEC

Test Report ID MAR02604

Issue Version: 1

Customer: InSitu SI, Unit 2 Rotherham Business Park, Chesterton Road, Rotherham, S65 1SE

Customer Reference: Fishguard - MMO/RPS Chem suite

Date Sampled: 18-Mar-25

Date Samples Received: 20-Mar-25

Test Report Date: 10-Apr-25

Condition of samples: Frozen Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditation
The results reported relate only to the sample tested
The results apply to the sample as received

JMColbourne

Authorised by: Jane Colbourne

Position: Customer Service Specialist

UKAS TESTING
1252

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	% M/M	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	WSLM59*	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	UKAS/MMO	MMO	MMO	MMO	MMO	MMO	MMO
			Total Organic Carbon	45mm	31.5mm	22.4mm	16mm	11.2mm	8mm
Client Reference:	SOCOTEC Ref:	Matrix	–	-5.5	-5.0	-4.5	-4.0	-3.5	-3.0
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	1.46	0.00	0.00	0.00	0.00	0.00	0.00
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	0.66	0.00	0.00	0.00	0.00	0.00	0.00
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	0.75	0.00	0.00	0.00	0.00	0.00	0.00
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	0.56	0.00	0.00	0.00	0.00	0.00	0.24
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	1.66	0.00	0.00	0.00	0.00	0.00	0.00
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	0.96	0.00	0.00	0.00	0.00	0.00	0.00
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	>23.0	0.00	6.31	12.08	10.12	2.82	3.81
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	8.31	0.00	0.00	0.00	1.81	1.46	0.00
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	0.19	0.00	0.00	0.00	0.00	0.00	0.00
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	1.43	0.00	0.00	0.00	0.00	0.00	0.03
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	1.45	0.00	0.00	0.00	0.00	0.00	0.00
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	1.68	0.00	0.00	0.00	0.00	0.00	0.13
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	0.19	0.00	0.00	0.00	0.00	0.00	0.86
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	1.15	0.00	0.00	0.00	0.00	0.46	0.00
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	0.35	0.00	0.00	0.00	0.00	0.00	0.00
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	0.42	0.00	0.00	0.00	0.00	0.08	0.00
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	0.09	0.00	0.00	0.00	0.00	0.00	0.00
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	0.15	0.00	0.00	0.00	0.00	0.00	0.00
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	1.70	0.00	0.00	0.00	0.00	0.00	0.00
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	0.35	0.00	0.00	0.00	2.00	0.50	0.70
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	0.31	0.00	0.00	0.00	0.00	0.00	0.00
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	1.67	0.00	0.00	0.00	0.00	0.00	0.00
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	0.37	0.00	0.00	0.00	0.00	0.00	0.00
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	0.43	0.00	0.00	0.00	0.00	0.00	0.00

* See Report Notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	MMO	MMO	MMO	MMO	MMO	MMO	MMO
			5.6mm	4mm	2.8mm	2mm	1.4mm	1mm	707µm
Client Reference:	SOCOTEC Ref:	Matrix	-2.5	-2.0	-1.5	-1.0	-0.5	0.0	0.5
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	0.00	0.05	0.05	0.05	0.07	0.10	0.00
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	0.05	0.02	0.05	0.05	0.07	0.07	0.57
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	0.04	0.07	0.15	0.18	0.24	0.26	0.00
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	0.00	0.00	0.03	0.03	0.03	0.03	0.00
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	0.03	0.03	0.03	0.03	0.03	0.03	0.00
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	0.00	0.02	0.02	0.02	0.02	0.07	0.00
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	5.30	3.73	5.38	4.69	4.20	4.39	3.27
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	0.49	0.64	0.92	1.15	1.43	1.76	2.39
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	0.25	0.19	0.50	0.41	0.58	1.08	2.59
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	0.03	0.03	0.03	0.03	0.11	0.14	0.00
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	0.03	0.03	0.05	0.11	0.16	0.25	0.00
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	0.55	0.36	0.55	0.39	0.60	0.68	0.00
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	0.27	0.20	0.35	0.22	0.38	0.46	0.34
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	0.49	0.46	0.68	1.01	1.04	1.69	0.00
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	0.06	0.15	0.21	0.25	0.29	0.25	0.00
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	0.10	0.12	0.20	0.24	0.24	0.20	0.00
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	0.00	0.00	0.00	0.02	0.02	0.02	0.00
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	0.02	0.02	0.02	0.02	0.02	0.02	0.00
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	0.03	0.03	0.03	0.03	0.06	0.22	0.00
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	0.91	1.28	2.09	1.94	2.35	3.68	0.00
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	0.00	0.15	0.15	0.32	0.41	0.52	0.00
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	0.00	0.00	0.03	0.03	0.03	0.03	0.00
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	0.21	0.07	0.19	0.23	0.30	0.23	0.00
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	0.00	0.06	0.03	0.06	0.03	0.03	0.00

* See Report Notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	MMO	MMO	MMO	MMO	MMO	MMO	MMO
			500µm	353.6µm	250µm	176.8µm	125µm	88.39µm	63µm
Client Reference:	SOCOTEC Ref:	Matrix	1.0	1.5	2.0	2.5	3.0	3.5	4.0
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	0.00	1.99	10.85	21.94	25.58	17.69	7.02
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	1.49	2.64	5.00	7.77	8.72	7.12	5.37
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	0.00	0.43	6.46	12.75	13.34	8.61	4.33
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	0.00	0.02	2.38	5.53	6.77	6.18	5.59
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	0.00	0.29	1.73	3.38	4.57	5.14	5.51
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	0.00	0.00	2.06	9.38	14.64	13.36	8.28
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	3.39	2.80	2.73	3.42	3.99	3.52	2.27
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	2.91	4.66	10.00	16.37	18.35	13.39	6.26
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	1.68	2.28	9.35	20.17	25.47	19.49	8.60
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	0.11	1.05	2.60	3.90	4.63	4.76	4.97
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	0.22	1.48	3.32	5.25	6.74	7.06	6.65
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	0.05	1.39	4.64	8.27	10.29	9.34	6.83
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	2.35	9.77	22.04	28.18	21.32	7.76	0.75
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	0.00	0.66	4.43	8.11	9.79	9.14	7.51
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	0.52	1.80	4.26	7.62	9.89	9.40	7.27
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	0.00	2.23	11.51	21.98	24.47	16.29	6.16
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	0.01	1.58	14.42	33.10	33.46	13.84	1.42
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	0.00	1.40	12.15	24.86	28.18	18.46	6.41
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	0.00	0.32	1.26	2.42	3.90	5.75	8.16
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	0.02	0.86	2.77	5.26	8.07	9.34	8.10
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	1.67	9.56	13.38	9.20	3.76	1.80	2.53
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	0.00	0.20	2.09	4.35	5.74	6.33	6.71
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	0.00	0.00	1.65	8.06	15.17	17.71	14.02
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	0.00	0.00	0.00	0.54	2.79	4.62	5.17

* See Report Notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	MMO	MMO	MMO	MMO	MMO	MMO	MMO
			44.2µm	31.3µm	22.1µm	15.6µm	11µm	7.8µm	5.5µm
Client Reference:	SOCOTEC Ref:	Matrix	4.5	5.0	5.5	6.0	6.5	7.0	7.5
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	1.90	1.56	2.06	1.81	1.47	1.45	1.47
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	5.25	6.06	6.58	6.67	6.87	7.14	6.92
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	3.33	4.08	4.65	4.81	5.23	6.02	6.53
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	6.00	6.86	7.45	7.81	8.39	8.93	8.64
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	6.10	6.70	6.90	6.84	7.26	8.30	9.12
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	4.62	3.79	4.31	4.76	5.19	5.80	6.17
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	1.30	1.00	1.06	1.11	1.12	1.16	1.21
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	2.31	1.60	1.80	1.64	1.40	1.40	1.48
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	1.85	0.41	0.90	0.92	0.61	0.51	0.60
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	5.71	6.62	7.27	7.73	8.46	9.24	9.32
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	6.44	6.45	6.37	6.27	6.57	7.25	7.70
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	5.17	4.79	4.93	5.02	5.25	5.72	6.09
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	0.02	0.42	0.75	0.66	0.51	0.50	0.55
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	6.34	5.76	5.40	5.24	5.45	5.84	5.88
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	5.56	4.81	4.63	4.64	4.88	5.33	5.72
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	1.49	1.33	1.97	1.84	1.54	1.51	1.58
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	0.00	0.00	0.05	0.35	0.42	0.33	0.28
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	0.94	0.73	1.35	1.09	0.71	0.70	0.82
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	10.74	11.93	10.61	8.20	6.63	6.35	6.41
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	6.02	4.64	4.20	4.18	4.36	4.66	4.83
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	3.49	4.01	4.41	4.79	5.19	5.61	5.93
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	7.16	7.44	7.45	7.52	7.94	8.40	8.27
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	8.24	4.29	3.11	3.22	3.40	3.48	3.55
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	5.55	6.33	7.19	7.69	8.09	8.54	8.83

* See Report Notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	MMO	MMO	MMO	MMO	MMO	MMO	MMO
			3.9µm	2.75µm	1.95µm	1.38µm	0.98µm	0.69µm	0.49µm
Client Reference:	SOCOTEC Ref:	Matrix	8.0	8.5	9.0	9.5	10.0	10.5	11.0
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	1.25	0.87	0.49	0.24	0.04	0.00	0.00
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	5.86	4.19	2.46	1.24	0.86	0.79	0.15
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	6.16	4.86	3.10	1.63	1.12	1.19	0.41
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	7.24	5.13	3.00	1.50	1.04	0.99	0.20
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	8.81	7.27	4.87	2.61	1.76	1.92	0.72
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	5.77	4.58	2.96	1.58	1.10	1.14	0.37
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	1.15	0.96	0.67	0.38	0.26	0.28	0.11
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	1.40	1.14	0.77	0.43	0.29	0.29	0.07
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	0.61	0.51	0.34	0.11	0.00	0.00	0.00
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	8.21	6.15	3.79	1.95	1.34	1.37	0.42
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	7.21	5.69	3.63	1.91	1.32	1.38	0.47
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	5.81	4.76	3.22	1.81	1.34	1.46	0.56
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	0.53	0.43	0.29	0.09	0.00	0.00	0.00
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	5.19	3.85	2.34	1.20	0.86	0.90	0.28
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	5.63	4.93	3.74	2.45	2.07	2.44	1.16
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	1.47	1.19	0.84	0.52	0.39	0.40	0.11
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	0.28	0.26	0.14	0.00	0.00	0.00	0.00
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	0.80	0.64	0.42	0.21	0.00	0.00	0.00
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	5.78	4.36	2.69	1.43	1.09	1.17	0.37
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	4.60	3.91	2.88	1.81	1.47	1.73	0.80
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	5.81	5.08	3.85	2.52	2.13	2.51	1.17
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	7.18	5.32	3.25	1.68	1.21	1.26	0.38
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	3.43	2.95	2.16	1.36	1.13	1.30	0.55
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	8.53	7.51	5.81	3.84	3.20	3.73	1.76

* See Report Notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
		Accreditation	MMO	MMO	MMO	MMO	MMO	MMO	MMO
			0.34µm	0.24µm	0.17µm	0.12µm	0.09µm	0.06µm	0.04µm
Client Reference:	SOCOTEC Ref:	Matrix	11.5	12.0	12.5	13.0	13.5	14.0	14.5
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	0.05	0.00	0.00	0.00	0.00	0.00	0.00
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	0.03	0.00	0.00	0.00	0.00	0.00	0.00
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	0.05	0.00	0.00	0.00	0.00	0.00	0.00
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	0.07	0.00	0.00	0.00	0.00	0.00	0.00

* See Report Notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	% (at 0.5phi intervals)
		Method No	*SUB_01
		Accreditation	MMO
			<0.04µm
Client Reference:	SOCOTEC Ref:	Matrix	>14.5
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	0.00
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	0.00
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	0.00
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	0.00
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	0.00
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	0.00
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	0.00
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	0.00
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	0.00
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	0.00
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	0.00
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	0.00
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	0.00
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	0.00
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	0.00
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	0.00
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	0.00
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	0.00
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	0.00
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	0.00
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	0.00
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	0.00
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	0.00
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	0.00

* See Report Notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)							
		Method No	ICPMSS*							
		Limit of Detection	0.5	0.04	0.5	0.5	0.01	0.5	0.5	2
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Arsenic (As)**	**Cadmium (Cd)**	**Chromium (Cr)**	**Copper (Cu)**	**Mercury (Hg)**	**Nickel (Ni)**	**Lead (Pb)**	**Zinc (Zn)**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	6.1	0.06	11.9	7.1	0.02	12.5	9.3	41.6
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	9.7	0.08	18.0	15.0	0.03	18.0	17.2	60.6
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	8.3	0.09	18.5	11.7	0.03	18.6	18.3	68.9
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	7.7	0.08	15.4	9.7	0.03	15.4	13.6	51.4
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	12.7	0.14	27.3	15.4	0.08	25.6	29.9	96.0
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	9.5	0.19	23.3	17.7	0.10	21.7	42.7	104
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	6.2	0.54	6.7	25.8	1.00	10.1	211	226
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	13.6	0.60	10.8	15.8	0.14	12.9	102	907
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	8.6	0.08	12.5	6.4	<0.01	13.2	7.3	48.6
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	12.8	0.14	31.4	18.2	0.06	29.3	34.2	111
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	12.1	0.15	26.9	20.4	0.07	25.1	29.4	93.3
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	9.0	0.11	18.5	13.4	0.05	18.1	42.5	75.0
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	6.6	0.08	11.3	6.5	0.02	11.7	7.4	34.8
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	9.7	0.13	23.1	14.7	0.05	22.1	29.9	79.9
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	10.1	0.15	25.5	14.9	0.02	27.8	14.0	61.0
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	8.7	0.08	11.4	7.0	0.01	12.0	6.7	30.9
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	6.9	0.09	11.4	5.7	<0.01	11.8	6.2	28.0
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	8.3	0.09	12.0	6.8	0.03	12.8	7.2	32.8
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	12.6	0.35	25.3	28.3	0.33	24.0	77.4	155
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	7.8	0.11	13.3	5.7	0.02	13.4	8.2	41.0
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	7.9	0.13	18.6	9.4	0.02	19.1	10.2	46.6
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	13.1	0.14	34.1	18.7	0.09	30.2	41.1	117
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	8.6	0.13	20.2	8.7	0.02	20.0	10.5	51.4
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	9.5	0.15	25.3	12.8	0.02	25.4	13.2	58.0
Certified Reference Material SETOC 768 (% Recovery)			103	110	105	111	98	108	106	110
QC Blank			<0.5	<0.04	<0.5	<0.5	<0.01	<0.5	<0.5	<2

* See Report Notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	%	mg/Kg (Dry Weight)
		Method No	LOI(%MM)*	KONENS*
		Limit of Detection	0.2	0.1
		Accreditation	N	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**LOI @ 450°C**	**Chromium (VI) as Cr**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	2.1	<0.1
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	4.5	<0.1
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	4.6	<0.1
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	3.7	<0.1
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	10.0	<0.1
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	5.7	<0.1
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	14.8	<0.1
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	14.9	<0.1
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	2.1	<0.1
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	8.0	<0.1
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	7.4	<0.1
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	5.3	<0.1
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	1.0	<0.1
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	4.4	<0.1
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	1.4	<0.1
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	0.5	<0.1
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	0.5	0.2
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	1.2	<0.1
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	5.4	<0.1
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	1.7	<0.1
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	1.4	<0.1
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	7.6	<0.1
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	1.8	<0.1
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	3.0	<0.1
		Reference Material (% Recovery)	101	96
		QC Blank	<0.2	<0.1

* See Report Notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	0.001	0.001
		Accreditation	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	<0.001	<0.001
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	<0.005	<0.005
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	<0.005	<0.005
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	<0.005	<0.005
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	<0.005	<0.005
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	<0.005	<0.005
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	<0.005	<0.005
Certified Reference Material BCR-646 (% Recovery)			80	65
QC Blank			<0.001	<0.001

* See Report Notes

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Certificate of Analysis

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

Test Report ID	MAR02604
Issue Version	1
Customer Reference	Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	0.001	0.001
		Accreditation	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	<0.005	<0.005
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	<0.001	<0.001
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	<0.005	<0.005
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	<0.005	<0.005
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	<0.005	<0.005
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<0.001	<0.001
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	<0.005	<0.005
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<0.005	<0.005
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<0.001	<0.001
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<0.001	<0.001
Certified Reference Material BCR-646 (% Recovery)			81	66
QC Blank			<0.001	<0.001

* See Report Notes

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

Test Report ID	MAR02604
Issue Version	1
Customer Reference	Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	0.001	0.001
		Accreditation	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<0.001	<0.001
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	<0.005	<0.005
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<0.005	<0.005
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<0.005	<0.005
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	<0.005	<0.005
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<0.005	<0.005
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<0.005	<0.005
Certified Reference Material BCR-646 (% Recovery)			70	56
QC Blank			<0.001	<0.001

* See Report Notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**	**BENZGHIP**	**BEP**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	1.72	<1	2.01	3.57	4.05	6.13	4.85	5.02
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	7.50	2.93	10.2	28.0	27.8	35.5	26.5	28.7
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	4.02	2.49	9.31	23.1	24.4	34.8	24.6	26.1
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	3.65	1.87	5.77	13.4	14.4	20.8	15.7	16.8
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	9.17	6.18	13.6	43.5	47.7	64.5	46.9	51.0
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	20.8	8.03	25.8	88.7	116	161	98.3	112
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	137	34.1	370	574	596	611	296	465
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	29.1	19.5	112	174	288	327	92.8	234
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	1.81	1.85	13.2	30.4	24.3	18.2	10.8	14.6
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	15.2	4.26	16.9	60.2	71.6	107	64.4	73.5
Certified Reference Material Nist 1941b (% Recovery)			71	111	70	68	57	83	71	88
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

For full analyte name see method summaries.

*See report notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	UKAS/MMO	MMO	MMO	MMO	MMO	MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BKF***	**C1N**	**C1PHEN**	**C2N**	**C3N**	**CHRYSENE***	**DBENZAH**	**FLUORANT**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	5.41	11.5	14.4	11.8	8.76	6.40	1.44	9.74
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	25.6	40.5	44.9	41.1	31.1	52.0	6.69	50.2
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	25.1	37.8	43.5	39.0	33.3	36.2	6.32	46.4
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	14.4	30.7	31.9	30.2	22.7	22.8	3.44	32.4
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	44.9	85.7	86.8	89.6	66.3	66.7	9.55	93.4
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	114	101	105	95.4	82.0	130	27.2	166
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	475	301	659	202	120	773	83.9	1490
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	304	61.6	168	77.1	73.0	257	22.9	328
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	19.4	3.98	26.2	5.25	7.43	28.6	2.75	74.4
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	71.0	92.0	99.7	86.6	76.9	97.8	14.2	132
Certified Reference Material Nist 1941b (% Recovery)			72	77	93	117	117	92	112	86
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

For full analyte name see method summaries.

*See report notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	mg/Kg
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/305
		Limit of Detection	1	1	1	1	1	1	1
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**FLUORENE**	**INDPYR**	**NAPTH**	**PERYLENE**	**PHENANT**	**PYRENE**	**THC**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	3.10	5.03	6.26	4.21	9.25	8.14	6.98
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	11.0	30.0	18.5	12.4	36.5	39.4	18.6
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	9.50	27.8	18.8	12.6	36.8	35.2	20.1
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	7.96	16.2	13.6	8.20	28.2	24.3	8.41
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	21.7	51.0	44.1	18.0	75.5	69.8	32.5
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	34.5	115	54.2	40.7	112	157	33.4
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	256	315	248	158	1250	1870	580
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	44.3	94.7	42.9	67.8	144	1030	115
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	3.32	12.2	1.93	9.66	24.1	61.8	1.56
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	25.8	73.2	42.8	39.3	102	103	12.1
Certified Reference Material Nist 1941b (% Recovery)			46	75	61	57	85	76	95~
QC Blank			<1	<1	<1	<1	<1	<1	<1

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

For full analyte name see method summaries.

*See report notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**	**BENZGHIP**	**BEP**
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	12.0	5.23	18.5	58.8	64.3	103	62.2	71.1
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	17.5	6.76	27.6	83.1	78.4	107	62.1	74.0
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<1	<1	<1	<1	<1	<1	<1	<1
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	11.8	5.59	17.5	69.7	74.8	117	67.4	79.8
Certified Reference Material Nist 1941b (% Recovery)			70	114	66	72	64	78	78	94
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

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For full analyte name see method summaries.

*See report notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	UKAS/MMO	MMO	MMO	MMO	MMO	MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BKF***	**C1N**	**C1PHEN**	**C2N**	**C3N**	**CHRYSENE***	**DBENZAH**	**FLUORANT**
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	65.7	89.4	103	92.1	77.6	88.8	16.7	115
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	75.4	60.8	93.0	62.4	57.4	103	16.3	215
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<1	1.61	1.54	1.65	<1	<1	<1	<1
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	75.0	83.7	95.1	75.9	61.6	103	19.1	135
Certified Reference Material Nist 1941b (% Recovery)			75	75	89	114	128	96	120	86
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	mg/Kg
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/305
		Limit of Detection	1	1	1	1	1	1	1
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**FLUORENE**	**INDPYR**	**NAPTH**	**PERYLENE**	**PHENANT**	**PYRENE**	**THC**
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	26.0	71.9	47.2	60.4	90.3	88.1	6.73
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	21.1	70.6	28.9	32.1	121	176	27.6
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<1	<1	<1	2.01	<1	<1	1.09
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	24.6	75.8	38.6	51.0	88.6	99.1	13.9
Certified Reference Material Nist 1941b (% Recovery)			49	83	59	64	84	76	92~
QC Blank			<1	<1	<1	<1	<1	<1	<1

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**	**BENZGHIP**	**BEP**
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	281	1010	1820	3010	2630	2070	1160	1520
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	18.0	10.2	25.8	70.3	81.3	144	87.6	95.0
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<5	<5	<5	1.18	<5	<5	<5	<5
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<5	<5	<5	2.71	<5	6.93	6.97	8.07
Certified Reference Material Nist 1941b (% Recovery)			72	116	72	71	60	79	72	90
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	UKAS/MMO	MMO	MMO	MMO	MMO	MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BKF***	**C1N**	**C1PHEN**	**C2N**	**C3N**	**CHRYSENE***	**DBENZAH**	**FLUORANT**
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<5	19.2	27.8	26.8	20.5	7.72	<5	<5
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<5	<5	9.59	9.12	11.0	<5	<5	<5
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<5	7.47	7.60	12.3	<5	<5	<5	<5
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	2250	401	2800	748	570	3060	305	9990
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<5	10.7	11.8	13.9	9.25	<5	<5	7.81
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<5	15.1	23.9	22.9	23.4	7.37	<5	<5
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	72.9	195	191	161	121	120	20.5	170
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<5	8.92	8.23	10.9	9.32	<5	<5	<5
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<5	25.8	34.0	32.1	29.9	9.16	<5	7.35
Certified Reference Material Nist 1941b (% Recovery)			76	79	89	118	122	94	115	90
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	mg/Kg
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/305
		Limit of Detection	1	1	1	1	1	1	1
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**FLUORENE**	**INDPYR**	**NAPTH**	**PERYLENE**	**PHENANT**	**PYRENE**	**THC**
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<5	<5	<5	13.8	14.7	7.85	<1
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<5	<5	<5	<5	<5	<5	1.07
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<5	<5	<5	<5	<5	<5	<1
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<5	<5	<5	<5	<5	<5	2.63
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	1620	1340	244	757	9480	6610	157
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<5	<5	<5	8.23	9.49	7.19	1.34
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<5	<5	<5	16.0	14.9	6.28	1.46
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	46.2	97.0	88.6	40.4	146	121	23.4
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<5	<5	<5	9.32	<5	<5	1.00
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<5	<5	<5	21.7	20.1	9.04	1.80
Certified Reference Material Nist 1941b (% Recovery)			50	72	66	58	87	78	95~
QC Blank			<1	<1	<1	<1	<1	<1	<1

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 101**	**PCB 105**	**PCB 110**	**PCB 118**	**PCB 128**	**PCB 138**	**PCB 141**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	0.00008	<0.00008	0.00009	0.00009	<0.00008	<0.00008	<0.00008
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	0.00009	0.00010	0.00014	0.00016	<0.00008	0.00021	<0.00008
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	0.00009	<0.00008	<0.00008	<0.00008	<0.00008	0.00009	<0.00008
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	0.00020	0.00015	0.00030	0.00039	0.00011	0.00055	0.00015
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	0.00442	0.00066	0.00230	0.00194	0.00095	0.01120	0.00449
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	0.00027	<0.00008	0.00010	<0.00008	0.00008	0.00028	0.00016
Certified Reference Material Nist 1941b (% Recovery)			81	92	96	97	113	106	113~
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 149**	**PCB 151**	**PCB 153**	**PCB 156**	**PCB 158**	**PCB 170**	**PCB 18**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	<0.00008	<0.00008	<0.00010	<0.00010	<0.00010	<0.00008	<0.00008
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	0.00009	<0.00008	<0.00010	<0.00010	<0.00010	<0.00008	<0.00008
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	0.00014	<0.00008	0.00023	<0.00010	<0.00010	0.00009	0.00012
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	0.00015	<0.00008	<0.00010	<0.00010	<0.00010	<0.00008	<0.00008
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	0.00033	0.00013	0.00054	<0.00010	<0.00010	0.00013	0.00026
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	0.01536	0.00572	0.01934	0.00057	0.00121	0.00831	0.00049
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	0.00047	0.00020	0.00062	<0.00010	<0.00010	0.00012	0.00010
Certified Reference Material Nist 1941b (% Recovery)			86	121~	100	78	96	99	88
QC Blank			<0.00008	<0.00008	<0.00010*	<0.00010*	<0.00010*	<0.00008	<0.00008

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 180**	**PCB 183**	**PCB 187**	**PCB 194**	**PCB 28**	**PCB 31**	**PCB 44**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	<0.00008	<0.00010	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	<0.00008	<0.00010	<0.00008	<0.00008	0.00017	0.00014	<0.00008
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	0.00022	<0.00010	0.00009	<0.00008	0.00022	0.00018	<0.00008
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	0.00023	<0.00010	0.00017	<0.00008	<0.00008	<0.00008	<0.00008
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	0.00040	<0.00010	0.00021	0.00009	0.00059	0.00041	0.00017
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	0.02342	0.00595	0.01438	0.00566	0.00104	0.00082	0.00055
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	0.00054	<0.00010	0.00033	0.00009	0.00021	0.00014	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			111	86	96	88	68	89	87
QC Blank			<0.00008	<0.00010*	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 47**	**PCB 49**	**PCB 52**	**PCB 66**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	<0.00008	0.00008	0.00009	0.00014
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	<0.00008	0.00010	0.00011	0.00021
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	<0.00008	0.00020	0.00032	0.00051
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	0.00031	0.00088	0.00126	0.00117
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	<0.00008	0.00012	0.00014	0.00012
Certified Reference Material Nist 1941b (% Recovery)			107~	95	91	92
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 101**	**PCB 105**	**PCB 110**	**PCB 118**	**PCB 128**	**PCB 138**	**PCB 141**
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	0.00033	0.00019	0.00039	0.00035	<0.00008	0.00060	0.00009
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	0.00025	0.00016	0.00030	0.00043	0.00011	0.00040	0.00009
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	0.00019	0.00011	0.00015	0.00022	0.00010	0.00026	<0.00008
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	0.00029	0.00015	0.00028	0.00032	<0.00008	0.00038	<0.00008
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			84	87	102	87	133	99	127~
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 149**	**PCB 151**	**PCB 153**	**PCB 156**	**PCB 158**	**PCB 170**	**PCB 18**
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	0.00050	0.00014	0.00078	<0.00008	0.00009	0.00012	0.00029
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	0.00029	<0.00008	0.00061	<0.00008	0.00009	0.00013	0.00019
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	0.00017	<0.00008	0.00043	<0.00008	<0.00008	<0.00008	0.00018
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	0.00042	<0.00008	0.00045	<0.00008	<0.00008	0.00011	0.00024
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			95	117~	97	105	124	95	79
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 180**	**PCB 183**	**PCB 187**	**PCB 194**	**PCB 28**	**PCB 31**	**PCB 44**
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	0.00037	0.00013	0.00024	0.00009	0.00051	0.00050	0.00023
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	0.00032	0.00009	0.00020	0.00008	0.00057	0.00043	0.00018
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	0.00016	<0.00008	0.00016	<0.00008	0.00044	0.00033	0.00012
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	0.00028	<0.00008	0.00012	<0.00008	0.00046	0.00035	0.00021
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			97	83	111	90	67	82	99
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 47**	**PCB 49**	**PCB 52**	**PCB 66**
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	0.00010	0.00024	0.00030	0.00050
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	0.00012	0.00025	0.00026	0.00053
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	0.00008	0.00013	0.00016	0.00035
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	0.00010	0.00023	0.00024	0.00038
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			119~	103	96	99
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 101**	**PCB 105**	**PCB 110**	**PCB 118**	**PCB 128**	**PCB 138**	**PCB 141**
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	0.00356	0.00029	0.00162	0.00114	0.00040	0.00306	0.00082
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	0.00041	0.00031	0.00057	0.00054	0.00015	0.00075	0.00010
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	0.00013	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			84	100	97	86	101	97	109~
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 149**	**PCB 151**	**PCB 153**	**PCB 156**	**PCB 158**	**PCB 170**	**PCB 18**
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	0.00720	0.00234	0.00886	0.00024	0.00053	0.00244	0.00089
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	0.00046	0.00007	0.00101	0.00009	0.00010	0.00021	0.00044
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			89	100~	94	80	52	102	84
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 180**	**PCB 183**	**PCB 187**	**PCB 194**	**PCB 28**	**PCB 31**	**PCB 44**
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	0.00633	0.00164	0.00432	0.00151	0.00288	0.00230	0.00131
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	0.00059	0.00012	0.00032	0.00013	0.00115	0.00082	0.00043
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			94	66	103	72	68	84	87
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 47**	**PCB 49**	**PCB 52**	**PCB 66**
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	0.00089	0.00248	0.00311	0.00230
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	0.00022	0.00048	0.00048	0.00106
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<0.00008	<0.00008	<0.00008	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			107~	94	89	98
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)							
		Method No	ASC/SOP/302							
		Limit of Detection	0.0001							
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**AHCH**	**BHCH**	**GHCH**	**DIELDRIN**	**HCB**	**PPTDE**	**PPDDE**	**PPDDT**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	<0.0001
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.0007	0.0002	<0.0001
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	<0.0001	<0.0001	<0.0001	0.0003	<0.0001	0.0003	<0.0001	0.0008
Certified Reference Material Nist 1941b (% Recovery)			109~	102~	112~	95~	153	56	72	99~
QC Blank			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

For full analyte name see method summaries.

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)							
		Method No	ASC/SOP/302							
		Limit of Detection	0.0001							
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**AHCH**	**BHCH**	**GHCH**	**DIELDRIN**	**HCB**	**PPTDE**	**PPDDE**	**PPDDT**
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	<0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0002	0.0002	<0.0001
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	0.0003	0.0001	<0.0001
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	0.0002	<0.0001	<0.0001
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<0.0001	<0.0001	<0.0001	0.0004	<0.0001	<0.0001	<0.0001	<0.0001
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Certified Reference Material Nist 1941b (% Recovery)			105~	98~	107~	104~	145	65	84	100~
QC Blank			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

For full analyte name see method summaries.

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)							
		Method No	ASC/SOP/302							
		Limit of Detection	0.0001							
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**AHCH**	**BHCH**	**GHCH**	**DIELDRIN**	**HCB**	**PPTDE**	**PPDDE**	**PPDDT**
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	<0.0001	<0.0001	0.0001	0.0003	0.0002	0.0075	0.0011	0.0023
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	<0.0001	<0.0001	<0.0001	0.0003	0.0001	0.0002	0.0002	<0.0001
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Certified Reference Material Nist 1941b (% Recovery)			107~	89~	114~	110~	119	55	77	95~
QC Blank			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

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For full analyte name see method summaries.

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308
		Limit of Detection	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BDE17**	**BDE28**	**BDE47**	**BDE66**	**BDE85**	**BDE99**	**BDE100**	**BDE138**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	<0.00005	<0.00005	0.00006	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Certified Reference Material Quasimeme SED56 (% Recovery)			86~	111	112	95~	92~	101	93	100~
QC Blank			<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005

* See Report Notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308
		Limit of Detection	0.00005	0.00005	0.00005	0.0001
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BDE153**	**BDE154**	**BDE183**	**BDE209**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	<0.00005	<0.00005	<0.00005	0.0134
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	<0.00005	<0.00005	<0.00005	0.0050
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	<0.00005	<0.00005	<0.00005	0.0041
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	<0.00005	<0.00005	<0.00005	0.0027
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	<0.00005	<0.00005	<0.00005	0.0071
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	<0.00005	<0.00005	<0.00005	<0.001
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	<0.005	<0.005	<0.005	0.0037
Certified Reference Material Quasimeme SED56 (% Recovery)			124	90~	138	76
QC Blank			<0.00005	<0.00005	<0.00005	<0.001*

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308
		Limit of Detection	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BDE17**	**BDE28**	**BDE47**	**BDE66**	**BDE85**	**BDE99**	**BDE100**	**BDE138**
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	<0.00005	<0.00005	0.00006	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	<0.00005	<0.00005	0.00006	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	<0.00005	<0.00005	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<0.00005	<0.00005	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Certified Reference Material Quasimeme SED56 (% Recovery)			84~	109	103	90~	85~	103	99	94~
QC Blank			<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308
		Limit of Detection	0.00005	0.00005	0.00005	0.0001
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BDE153**	**BDE154**	**BDE183**	**BDE209**
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	<0.00005	<0.00005	<0.00005	0.0276
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	<0.00005	<0.00005	<0.00005	<0.0006
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	<0.00005	<0.00005	<0.00005	0.0166
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	<0.00005	<0.00005	<0.00005	0.0269
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	<0.00005	<0.00005	<0.00005	0.0029
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<0.00005	<0.00005	<0.00005	<0.0006
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	<0.00005	<0.00005	<0.00005	0.0050
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<0.00005	<0.00005	<0.00005	<0.0006
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<0.00005	<0.00005	<0.00005	0.0024
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<0.00005	<0.00005	<0.00005	<0.0006
Certified Reference Material Quasimeme SED56 (% Recovery)			130	83~	90	74
QC Blank			<0.00005	<0.00005	<0.00005	<0.0006*

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308
		Limit of Detection	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BDE17**	**BDE28**	**BDE47**	**BDE66**	**BDE85**	**BDE99**	**BDE100**	**BDE138**
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	<0.00005	<0.00005	0.00015	<0.00005	<0.00005	0.00014	<0.00005	<0.00005
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<0.00005	<0.00005	0.00009	<0.00005	<0.00005	0.00008	<0.00005	<0.00005
Certified Reference Material Quasimeme SED56 (% Recovery)			86~	116	102	89~	87~	106	103	93~
QC Blank			<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005

* See Report Notes

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308	ASC/SOP/308
		Limit of Detection	0.00005	0.00005	0.00005	0.0001
		Accreditation	UKAS/MMO	UKAS/MMO	UKAS/MMO	UKAS/MMO
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**BDE153**	**BDE154**	**BDE183**	**BDE209**
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<0.00005	<0.00005	<0.00005	0.0008
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	<0.00005	<0.00005	<0.00005	0.0029
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<0.00005	<0.00005	<0.00005	0.0007
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<0.00005	<0.00005	<0.00005	0.0021
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	<0.00005	<0.00005	<0.00005	0.0144
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<0.00005	<0.00005	<0.00005	<0.0006
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<0.00005	<0.00005	<0.00005	0.0030
Certified Reference Material Quasimeme SED56 (% Recovery)			113	85~	100	73
QC Blank			<0.00005	<0.00005	<0.00005	<0.0006*

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
*SUB_01	MAR02604.001-024	Analysis was conducted by an approved subcontracted laboratory.
WSLM59*	MAR02604.001-024	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
ICPMSS*	MAR02604.001-024	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
LOI(%MM)*	MAR02604.001-024	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
KONENS*	MAR02604.001-024	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
ASC/SOP/301	MAR02604.002-008, .010-012, .014-015, .019-024	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/302	MAR02604.001-007	The Primary process control blank data associated with this Test has not wholly met the requirements of the Laboratory Quality Management System QMS with PCB156, 158, 170 & 183 falling above acceptable reporting limits. The remaining data gives the Laboratory confidence that the test has performed satisfactorily and that the validity of the data may not have been significantly affected.However in line with our QMS policy the report limit for this compound has been raised and samples have been blank subtracted.
ASC/SOP/303/304	MAR02604.015-024	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/303/304	MAR02604.001-024	Benzo[k]fluoranthene is known to coelute with Benzo[j]fluoranthene and these peaks can not be resolved. It is believed Benzo[j]fluoranthene is present in these samples therefore it is suggested that the Benzo[k]fluoranthene results should be taken as a Benzo[k]fluoranthene (inc. Benzo[j]fluoranthene). Benzo[j]fluoranthene is not UKAS accredited. This should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR02604.001-024	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved in the PAHSED UKAS accredited method. Chrysene and Triphenylene are resolved for MMO but this is currently not UKAS accredited therefore Chrysene is reported without this acccreditation.
ASC/SOP/308	MAR02604.007	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/308	MAR02604.001-024	The Primary process control blank data associated with this Test has not wholly met the requirements of the Laboratory Quality Management System QMS with BDE209 falling above acceptable reporting limits. The remaining data gives the Laboratory confidence that the test has performed satisfactorily and that the validity of the data may not have been significantly affected.However in line with our QMS policy the report limit for this compound has been raised and samples have been blank subtracted.

DEVIATING SAMPLE STATEMENT

Deviation Code	Deviation Definition	Sample ID	Deviation Details. The following information should be taken into consideration when using the data contained within this report
D1	Holding Time Exceeded	N/A	N/A
D2	Sample Contaminated through Damaged Packaging	N/A	N/A
D3	Sample Contaminated through Sampling	N/A	N/A
D4	Inappropriate Container/Packaging	N/A	N/A
D5	Damaged in Transit	N/A	N/A
D6	Insufficient Quantity of Sample	N/A	N/A
D7	Inappropriate Headspace	N/A	N/A
D8	Retained at Incorrect Temperature	N/A	N/A
D9	Lack of Date & Time of Sampling	N/A	N/A
D10	Insufficient Sample Details	N/A	N/A
D11	Sample integrity compromised or not suitable for analysis	N/A	N/A

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Certificate of Analysis

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

Test Report ID	MAR02604
Issue Version	1
Customer Reference	Fishguard - MMO/RPS Chem suite

Method	Sample and Fraction Size	Method Summary
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Total Organic Carbon (TOC)	Air dried	Carbonate removal and sulphurous acid/combustion at 1600°C/NDIR.
LOI @ 450	Air dried	Determination of loss on ignition at 450°C by gravimetry
Chromium VI as Cr	Air dried	Colorimetric Analysis
Metals	Air dried	Aqua-regia extraction followed by ICP analysis.
Organotins	Wet Sediment	Solvent extraction and derivatisation followed by GC-MS analysis.
Polyaromatic Hydrocarbons (PAH)	Wet Sediment	Solvent extraction and clean up followed by GC-MS analysis.
Total Hydrocarbon Content (THC)	Wet Sediment	Ultra-violet fluorescence spectroscopy
Polychlorinated Biphenyls (PCBs)	Air dried and seived to <2mm	Solvent extraction and clean up followed by GC-MS-MS analysis.
Organochlorine Pesticides (OCPs)	Air dried and seived to <2mm	Solvent extraction and clean up followed by GC-MS-MS analysis.
Brominated Flame Retardants (PBDEs)	Air dried and seived to <2mm	Solvent extraction and clean up followed by GC-MS-MS analysis.

Analyte Definitions

Analyte Abbreviation	Full Analyte name	Analyte Abbreviation	Full Analyte name	Analyte Abbreviation	Full Analyte name
ACENAPTH	Acenaphthene	C2N	C2-naphthalenes	THC	Total Hydrocarbon Content
ACENAPHY	Acenaphthylene	C3N	C3-naphthalenes	AHCH	alpha-Hexachlorocyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorocyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorocyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	PPDDE	p,p'-Dichlorodiphenyldichloroethylene
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	PPDDT	p,p'-Dichlorodiphenyltrichloroethane
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	PPTDE	p,p'-Dichlorodiphenyldichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

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

SOCOTEC

Test Report ID MAR02604

Issue Version: 1

Customer: InSitu SI, Unit 2 Rotherham Business Park, Chesterton Road, Rotherham, S65 1SE

Customer Reference: Fishguard - RPS Waste Suite

Date Sampled: 18-Mar-25

Date Samples Received: 20-Mar-25

Test Report Date: 10-Apr-25

Condition of samples: Frozen Satisfactory

Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditation
The results reported relate only to the sample tested
The results apply to the sample as received

JMColbourne

Authorised by: Jane Colbourne

Position: Customer Service Specialist

UKAS TESTING
1252

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
			45mm	31.5mm	22.4mm	16mm	11.2mm	8mm	5.6mm
Client Reference:	SOCOTEC Ref:	Matrix	-5.5	-5.0	-4.5	-4.0	-3.5	-3.0	-2.5
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.05
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.04
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	0.00	0.00	0.00	0.00	0.00	0.24	0.00
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.03
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	0.00	6.31	12.08	10.12	2.82	3.81	5.30
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	0.00	0.00	0.00	1.81	1.46	0.00	0.49
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.25
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	0.00	0.00	0.00	0.00	0.00	0.03	0.03
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.03
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	0.00	0.00	0.00	0.00	0.00	0.13	0.55
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	0.00	0.00	0.00	0.00	0.00	0.86	0.27
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	0.00	0.00	0.00	0.00	0.46	0.00	0.49
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.06
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	0.00	0.00	0.00	0.00	0.08	0.00	0.10
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.02
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.03
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	0.00	0.00	0.00	2.00	0.50	0.70	0.91
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.21
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* See Report Notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
			4mm	2.8mm	2mm	1.4mm	1mm	707µm	500µm
Client Reference:	SOCOTEC Ref:	Matrix	-2.0	-1.5	-1.0	-0.5	0.0	0.5	1.0
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	0.05	0.05	0.05	0.07	0.10	0.00	0.00
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	0.02	0.05	0.05	0.07	0.07	0.57	1.49
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	0.07	0.15	0.18	0.24	0.26	0.00	0.00
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	0.00	0.03	0.03	0.03	0.03	0.00	0.00
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	0.03	0.03	0.03	0.03	0.03	0.00	0.00
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	0.02	0.02	0.02	0.02	0.07	0.00	0.00
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	3.73	5.38	4.69	4.20	4.39	3.27	3.39
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	0.64	0.92	1.15	1.43	1.76	2.39	2.91
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	0.19	0.50	0.41	0.58	1.08	2.59	1.68
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	0.03	0.03	0.03	0.11	0.14	0.00	0.11
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	0.03	0.05	0.11	0.16	0.25	0.00	0.22
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	0.36	0.55	0.39	0.60	0.68	0.00	0.05
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	0.20	0.35	0.22	0.38	0.46	0.34	2.35
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	0.46	0.68	1.01	1.04	1.69	0.00	0.00
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	0.15	0.21	0.25	0.29	0.25	0.00	0.52
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	0.12	0.20	0.24	0.24	0.20	0.00	0.00
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	0.00	0.00	0.02	0.02	0.02	0.00	0.01
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	0.02	0.02	0.02	0.02	0.02	0.00	0.00
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	0.03	0.03	0.03	0.06	0.22	0.00	0.00
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	1.28	2.09	1.94	2.35	3.68	0.00	0.02
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	0.15	0.15	0.32	0.41	0.52	0.00	1.67
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	0.00	0.03	0.03	0.03	0.03	0.00	0.00
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	0.07	0.19	0.23	0.30	0.23	0.00	0.00
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	0.06	0.03	0.06	0.03	0.03	0.00	0.00

* See Report Notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
			353.6µm	250µm	176.8µm	125µm	88.39µm	63µm	44.2µm
Client Reference:	SOCOTEC Ref:	Matrix	1.5	2.0	2.5	3.0	3.5	4.0	4.5
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	1.99	10.85	21.94	25.58	17.69	7.02	1.90
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	2.64	5.00	7.77	8.72	7.12	5.37	5.25
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	0.43	6.46	12.75	13.34	8.61	4.33	3.33
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	0.02	2.38	5.53	6.77	6.18	5.59	6.00
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	0.29	1.73	3.38	4.57	5.14	5.51	6.10
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	0.00	2.06	9.38	14.64	13.36	8.28	4.62
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	2.80	2.73	3.42	3.99	3.52	2.27	1.30
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	4.66	10.00	16.37	18.35	13.39	6.26	2.31
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	2.28	9.35	20.17	25.47	19.49	8.60	1.85
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	1.05	2.60	3.90	4.63	4.76	4.97	5.71
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	1.48	3.32	5.25	6.74	7.06	6.65	6.44
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	1.39	4.64	8.27	10.29	9.34	6.83	5.17
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	9.77	22.04	28.18	21.32	7.76	0.75	0.02
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	0.66	4.43	8.11	9.79	9.14	7.51	6.34
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	1.80	4.26	7.62	9.89	9.40	7.27	5.56
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	2.23	11.51	21.98	24.47	16.29	6.16	1.49
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	1.58	14.42	33.10	33.46	13.84	1.42	0.00
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	1.40	12.15	24.86	28.18	18.46	6.41	0.94
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	0.32	1.26	2.42	3.90	5.75	8.16	10.74
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	0.86	2.77	5.26	8.07	9.34	8.10	6.02
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	9.56	13.38	9.20	3.76	1.80	2.53	3.49
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	0.20	2.09	4.35	5.74	6.33	6.71	7.16
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	0.00	1.65	8.06	15.17	17.71	14.02	8.24
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	0.00	0.00	0.54	2.79	4.62	5.17	5.55

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
			31.3µm	22.1µm	15.6µm	11µm	7.8µm	5.5µm	3.9µm
Client Reference:	SOCOTEC Ref:	Matrix	5.0	5.5	6.0	6.5	7.0	7.5	8.0
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	1.56	2.06	1.81	1.47	1.45	1.47	1.25
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	6.06	6.58	6.67	6.87	7.14	6.92	5.86
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	4.08	4.65	4.81	5.23	6.02	6.53	6.16
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	6.86	7.45	7.81	8.39	8.93	8.64	7.24
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	6.70	6.90	6.84	7.26	8.30	9.12	8.81
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	3.79	4.31	4.76	5.19	5.80	6.17	5.77
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	1.00	1.06	1.11	1.12	1.16	1.21	1.15
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	1.60	1.80	1.64	1.40	1.40	1.48	1.40
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	0.41	0.90	0.92	0.61	0.51	0.60	0.61
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	6.62	7.27	7.73	8.46	9.24	9.32	8.21
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	6.45	6.37	6.27	6.57	7.25	7.70	7.21
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	4.79	4.93	5.02	5.25	5.72	6.09	5.81
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	0.42	0.75	0.66	0.51	0.50	0.55	0.53
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	5.76	5.40	5.24	5.45	5.84	5.88	5.19
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	4.81	4.63	4.64	4.88	5.33	5.72	5.63
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	1.33	1.97	1.84	1.54	1.51	1.58	1.47
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	0.00	0.05	0.35	0.42	0.33	0.28	0.28
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	0.73	1.35	1.09	0.71	0.70	0.82	0.80
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	11.93	10.61	8.20	6.63	6.35	6.41	5.78
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	4.64	4.20	4.18	4.36	4.66	4.83	4.60
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	4.01	4.41	4.79	5.19	5.61	5.93	5.81
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	7.44	7.45	7.52	7.94	8.40	8.27	7.18
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	4.29	3.11	3.22	3.40	3.48	3.55	3.43
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	6.33	7.19	7.69	8.09	8.54	8.83	8.53

* See Report Notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
			2.75µm	**1.95µm**	**1.38µm**	**0.98µm**	**0.69µm**	**0.49µm**	**0.34µm**
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**8.5**	**9.0**	**9.5**	**10.0**	**10.5**	**11.0**	**11.5**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	0.87	0.49	0.24	0.04	0.00	0.00	0.00
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	4.19	2.46	1.24	0.86	0.79	0.15	0.00
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	4.86	3.10	1.63	1.12	1.19	0.41	0.00
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	5.13	3.00	1.50	1.04	0.99	0.20	0.00
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	7.27	4.87	2.61	1.76	1.92	0.72	0.00
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	4.58	2.96	1.58	1.10	1.14	0.37	0.00
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	0.96	0.67	0.38	0.26	0.28	0.11	0.00
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	1.14	0.77	0.43	0.29	0.29	0.07	0.00
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	0.51	0.34	0.11	0.00	0.00	0.00	0.00
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	6.15	3.79	1.95	1.34	1.37	0.42	0.00
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	5.69	3.63	1.91	1.32	1.38	0.47	0.00
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	4.76	3.22	1.81	1.34	1.46	0.56	0.00
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	0.43	0.29	0.09	0.00	0.00	0.00	0.00
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	3.85	2.34	1.20	0.86	0.90	0.28	0.00
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	4.93	3.74	2.45	2.07	2.44	1.16	0.05
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	1.19	0.84	0.52	0.39	0.40	0.11	0.00
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	0.26	0.14	0.00	0.00	0.00	0.00	0.00
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	0.64	0.42	0.21	0.00	0.00	0.00	0.00
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	4.36	2.69	1.43	1.09	1.17	0.37	0.00
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	3.91	2.88	1.81	1.47	1.73	0.80	0.03
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	5.08	3.85	2.52	2.13	2.51	1.17	0.05
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	5.32	3.25	1.68	1.21	1.26	0.38	0.00
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	2.95	2.16	1.36	1.13	1.30	0.55	0.00
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	7.51	5.81	3.84	3.20	3.73	1.76	0.07

* See Report Notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - MMO/RPS Chem suite

		Units	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)	% (at 0.5phi intervals)
		Method No	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01	*SUB_01
			0.24µm	**0.17µm**	**0.12µm**	**0.09µm**	**0.06µm**	**0.04µm**	**<0.04µm**
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**12.0**	**12.5**	**13.0**	**13.5**	**14.0**	**14.5**	**>14.5**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* See Report Notes

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Certificate of Analysis

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

Test Report ID	MAR02604
Issue Version	1
Customer Reference	Fishguard - RPS Waste Suite

		Units	%	%	% m/m	%m/m	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/303	ASC/SOP/303	WSLM59*	ANC*	ICPMS-MWSED*	ICPMS-MWSED*
		Limit of Detection	0.2	0.2	0.02	0.12	0.14	0.03
		Accreditation	UKAS	UKAS	UKAS	No	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Total Moisture @ 120°C**	**Total Solids**	**TOC**	**Carbonate Equivalent (%CO3)**	**Arsenic as As**	**Cadmium as Cd**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	23.0	77.0	1.46	6.61	12.3	0.09
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	36.4	63.6	0.66	9.44	15.8	0.10
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	29.4	70.6	0.75	9.36	15.6	0.09
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	40.4	59.6	0.56	9.29	16.1	0.09
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	53.0	47.0	1.66	11.2	22.9	0.14
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	28.9	71.1	0.96	10.6	18.9	0.18
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	26.2	73.8	>23.0	4.29	16.2	0.47
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	30.6	69.4	8.31	15.9	22.6	0.46
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	21.1	78.9	0.19	8.38	21.0	0.07
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	38.9	61.1	1.43	11.6	25.8	0.13
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	34.4	65.6	1.45	11.8	26.3	0.14
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	22.7	77.3	1.68	11.1	22.3	0.10
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	20.7	79.3	0.19	5.47	18.5	0.04
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	38.6	61.4	1.15	12.0	23.9	0.11
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	22.3	77.7	0.35	9.01	23.6	0.09
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	20.5	79.5	0.42	5.31	28.3	0.05
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	20.1	79.9	0.09	6.09	19.0	0.04
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	21.0	79.0	0.15	7.83	19.8	0.05
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	32.1	67.9	1.70	11.8	24.7	0.31
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	19.9	80.1	0.35	15.3	15.8	0.09
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	18.2	81.8	0.31	6.57	17.2	0.11
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	48.5	51.5	1.67	12.2	21.8	0.13
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	20.6	79.4	0.37	9.90	19.2	0.09
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	23.7	76.3	0.43	8.79	21.8	0.14
Reference Material (% Recovery)			N/A	N/A	95	99	101	92
QC Blank			N/A	N/A	<0.02	<0.12	<0.14	<0.03

* See Report Notes

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Certificate of Analysis

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

Test Report ID	MAR02604
Issue Version	1
Customer Reference	Fishguard - RPS Waste Suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ICPMS-MWSED*	ICPMS-MWSED*	ICPMS-MWSED*	ICPMS-MWSED*	ICPMS-MWSED*	ICPMS-MWSED*	ICPMS-MWSED*
		Limit of Detection	1	0.7	0.6	1	0.01	0.4	0.5
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Chromium as Cr**	**Copper as Cu**	**Lead as Pb**	**Manganese as Mn**	**Mercury as Hg**	**Nickel as Ni**	**Tin as Sn**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	31.5	7.3	17.9	278	0.03	13.6	1.7
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	44.1	15.8	20.7	382	0.04	19.7	3.1
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	44.6	11.3	21.9	353	0.04	20.1	2.9
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	38.2	9.8	18.0	357	0.03	17.2	2.5
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	67.4	17.3	36.7	572	0.08	30.1	6.0
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	55.8	17.6	48.1	446	0.11	24.3	5.0
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	22.1	26.2	208	142	2.12	23.6	6.6
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	23.4	14.6	95.8	357	0.14	14.7	2.3
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	33.3	7.3	10.8	292	<0.01	15.6	1.9
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	72.8	19.1	38.7	645	0.07	33.1	5.5
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	69.5	23.3	36.8	554	0.06	30.3	5.2
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	44.2	18.5	46.2	376	0.04	20.2	8.0
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	23.3	6.6	10.3	234	<0.01	11.6	1.2
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	52.7	15.8	43.5	387	0.05	23.7	4.1
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	58.9	13.0	15.9	491	<0.01	27.4	2.0
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	33.3	8.9	11.0	287	0.01	15.4	1.6
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	26.0	6.5	9.6	259	0.01	12.2	1.4
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	30.7	7.8	10.9	318	0.04	14.1	2.2
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	60.2	30.1	79.6	457	0.36	26.8	11.3
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	35.6	7.7	11.0	367	<0.01	15.6	1.9
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	49.8	11.6	14.2	469	<0.01	23.8	2.0
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	70.0	18.4	43.5	581	0.07	32.4	7.1
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	54.9	10.4	15.4	464	<0.01	25.0	2.2
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	73.3	15.3	19.4	609	<0.01	34.3	2.6
		Reference Material (% Recovery)	86	87	87	90	91	96	86
		QC Blank	<1	<0.7	<0.6	<1	<0.01	<0.4	<0.5

* See Report Notes

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Certificate of Analysis

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

Test Report ID	MAR02604
Issue Version	1
Customer Reference	Fishguard - RPS Waste Suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ICPMS-MWSED*	ICPOES-MWSED*	ICPOES-MWSED*
		Limit of Detection	3.5	1750	860
		Accreditation	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Zinc as Zn**	**Aluminium as Al**	**Iron as Fe**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	47.1	33900	17000
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	67.7	41500	21900
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	69.1	40100	21600
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	56.9	39100	20300
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	104	52400	28400
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	107	48600	26300
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	155	19900	11000
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	755	25200	42000
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	57.5	45700	22200
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	114	61000	31800
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	108	54400	28900
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	77.1	41600	22000
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	33.6	29800	15500
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	80.9	47800	25900
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	61.6	56000	30400
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	42.7	28400	16100
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	32.0	29100	15800
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	36.8	31500	17100
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	154	47100	27300
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	44.0	37900	17700
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	57.0	45100	23300
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	117	58600	31900
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	61.8	46200	25000
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	73.7	57400	31200
		Reference Material (% Recovery)	89	90	102
		QC Blank	<3.5	<1750	<2

* See Report Notes

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Certificate of Analysis

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

Test Report ID	MAR02604
Issue Version	1
Customer Reference	Fishguard - RPS Waste Suite

		Units	mg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	0.001	0.001
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	<0.001	<0.001
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	<0.005	<0.005
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	<0.005	<0.005
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	<0.005	<0.005
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	<0.005	<0.005
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	<0.005	<0.005
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	<0.005	<0.005
Certified Reference Material BCR-646 (% Recovery)			80	65
QC Blank			<0.001	<0.001

* See Report Notes

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Certificate of Analysis

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

Test Report ID	MAR02604
Issue Version	1
Customer Reference	Fishguard - RPS Waste Suite

		Units	mg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	0.001	0.001
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	<0.005	<0.005
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	<0.001	<0.001
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	<0.005	<0.005
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	<0.005	<0.005
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	<0.005	<0.005
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<0.001	<0.001
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	<0.005	<0.005
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<0.005	<0.005
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<0.001	<0.001
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<0.001	<0.001
Certified Reference Material BCR-646 (% Recovery)			81	66
QC Blank			<0.001	<0.001

* See Report Notes

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Certificate of Analysis

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

Test Report ID	MAR02604
Issue Version	1
Customer Reference	Fishguard - RPS Waste Suite

		Units	mg/Kg (Dry Weight)	
		Method No	ASC/SOP/301	
		Limit of Detection	0.001	0.001
		Accreditation	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**Dibutyltin (DBT)**	**Tributyltin (TBT)**
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<0.001	<0.001
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	<0.005	<0.005
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<0.005	<0.005
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<0.005	<0.005
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	<0.005	<0.005
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<0.005	<0.005
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<0.005	<0.005
Certified Reference Material BCR-646 (% Recovery)			70	56
QC Blank			<0.001	<0.001

* See Report Notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**	**BENZGHIP**	**BKF***
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	1.72	<1	2.01	3.57	4.05	6.13	4.85	5.41
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	7.50	2.93	10.2	28.0	27.8	35.5	26.5	25.6
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	4.02	2.49	9.31	23.1	24.4	34.8	24.6	25.1
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	3.65	1.87	5.77	13.4	14.4	20.8	15.7	14.4
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	9.17	6.18	13.6	43.5	47.7	64.5	46.9	44.9
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	20.8	8.03	25.8	88.7	116	161	98.3	114
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	137	34.1	370	574	596	611	296	475
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	29.1	19.5	112	174	288	327	92.8	304
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	1.81	1.85	13.2	30.4	24.3	18.2	10.8	19.4
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	15.2	4.26	16.9	60.2	71.6	107	64.4	71.0
Certified Reference Material Nist 1941b (% Recovery)			71	111	70	68	57	83	71	72
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

For full analyte name see method summaries.

*See report notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	N	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**CHRYSENE***	**DBENZAH**	**FLUORANT**	**FLUORENE**	**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	6.40	1.44	9.74	3.10	5.03	6.26	9.25	8.14
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	52.0	6.69	50.2	11.0	30.0	18.5	36.5	39.4
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	36.2	6.32	46.4	9.50	27.8	18.8	36.8	35.2
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	22.8	3.44	32.4	7.96	16.2	13.6	28.2	24.3
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	66.7	9.55	93.4	21.7	51.0	44.1	75.5	69.8
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	130	27.2	166	34.5	115	54.2	112	157
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	773	83.9	1490	256	315	248	1250	1870
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	257	22.9	328	44.3	94.7	42.9	144	1030
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	28.6	2.75	74.4	3.32	12.2	1.93	24.1	61.8
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	97.8	14.2	132	25.8	73.2	42.8	102	103
Certified Reference Material Nist 1941b (% Recovery)			92	112	86	46	75	61	85	76
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

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For full analyte name see method summaries.

*See report notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**	**BENZGHIP**	**BKF***
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	12.0	5.23	18.5	58.8	64.3	103	62.2	65.7
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	17.5	6.76	27.6	83.1	78.4	107	62.1	75.4
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<1	<1	<1	<1	<1	<1	<1	<1
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	11.8	5.59	17.5	69.7	74.8	117	67.4	75.0
Certified Reference Material Nist 1941b (% Recovery)			70	114	66	72	64	78	78	75
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

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For full analyte name see method summaries.

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	N	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**CHRYSENE***	**DBENZAH**	**FLUORANT**	**FLUORENE**	**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	88.8	16.7	115	26.0	71.9	47.2	90.3	88.1
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	103	16.3	215	21.1	70.6	28.9	121	176
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<1	<1	<1	<1	<1	<1	<1	<1
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	103	19.1	135	24.6	75.8	38.6	88.6	99.1
Certified Reference Material Nist 1941b (% Recovery)			96	120	86	49	83	59	84	76
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

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For full analyte name see method summaries.

*See report notes

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**ACENAPTH**	**ACENAPHY**	**ANTHRACN**	**BAA**	**BAP**	**BBF**	**BENZGHIP**	**BKF***
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	281	1010	1820	3010	2630	2070	1160	2250
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	18.0	10.2	25.8	70.3	81.3	144	87.6	72.9
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<5	<5	<5	1.18	<5	<5	<5	<5
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<5	<5	<5	2.71	<5	6.93	6.97	<5
Certified Reference Material Nist 1941b (% Recovery)			72	116	72	71	60	79	72	76
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

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For full analyte name see method summaries.

*See report notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

		Units	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304	ASC/SOP/303/304
		Limit of Detection	1	1	1	1	1	1	1	1
		Accreditation	N	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**CHRYSENE***	**DBENZAH**	**FLUORANT**	**FLUORENE**	**INDPYR**	**NAPTH**	**PHENANT**	**PYRENE**
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	7.72	<5	<5	<5	<5	<5	14.7	7.85
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	3060	305	9990	1620	1340	244	9480	6610
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<5	<5	7.81	<5	<5	<5	9.49	7.19
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	7.37	<5	<5	<5	<5	<5	14.9	6.28
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	120	20.5	170	46.2	97.0	88.6	146	121
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<5	<5	<5	<5	<5	<5	<5	<5
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	9.16	<5	7.35	<5	<5	<5	20.1	9.04
Certified Reference Material Nist 1941b (% Recovery)			94	115	90	50	72	66	87	78
QC Blank			<1	<1	<1	<1	<1	<1	<1	<1

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

For full analyte name see method summaries.

*See report notes

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Certificate of Analysis

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

Test Report ID	MAR02604
Issue Version	1
Customer Reference	Fishguard - RPS Waste Suite

		Units	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/306
		Limit of Detection	100
		Accreditation	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**THC**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	8720
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	41200
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	27400
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	23900
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	47400
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	106000
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	561000
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	402000
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	3640
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	69400
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	65500
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	57600
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	3660
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	41700
		In-House Reference Material (% Recovery)	114~
		QC Blank	<100

For full analyte name see method summaries

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.

As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.

*See report notes

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Certificate of Analysis

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

		Units	µg/Kg (Dry Weight)
		Method No	ASC/SOP/303/306
		Limit of Detection	100
		Accreditation	N
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**THC**
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	6070
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	6260
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	7130
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	6770
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	305000
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	8180
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	2610
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	58000
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	1910
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	3110
		In-House Reference Material (% Recovery)	112~
		QC Blank	<100

For full analyte name see method summaries
~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are avaliable.
As the method uses surrogate standards to correct for losses, the RM results are reported as percentage trueness, not recovery.
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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 28**	**PCB 52**	**PCB 101**	**PCB 118**	**PCB 138**	**PCB 153**	**PCB 180**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00010	<0.00008
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	0.00017	0.00009	0.00008	0.00009	<0.00008	<0.00010	<0.00008
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	0.00022	0.00011	0.00009	0.00016	0.00021	0.00023	0.00022
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	<0.00008	<0.00008	0.00009	<0.00008	0.00009	<0.00010	0.00023
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	0.00059	0.00032	0.00020	0.00039	0.00055	0.00054	0.00040
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	0.00104	0.00126	0.00442	0.00194	0.01120	0.01934	0.02342
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	0.00021	0.00014	0.00027	<0.00008	0.00028	0.00062	0.00054
Certified Reference Material Nist 1941b (% Recovery)			68	91	81	97	106	100	111
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00010*	<0.00008

~ Indicates result is for an In-house Reference Material as no Certified Reference Materials are available.

*See report notes

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Certificate of Analysis

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

Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 28**	**PCB 52**	**PCB 101**	**PCB 118**	**PCB 138**	**PCB 153**	**PCB 180**
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	0.00051	0.00030	0.00033	0.00035	0.00060	0.00078	0.00037
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	0.00057	0.00026	0.00025	0.00043	0.00040	0.00061	0.00032
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	0.00044	0.00016	0.00019	0.00022	0.00026	0.00043	0.00016
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	0.00046	0.00024	0.00029	0.00032	0.00038	0.00045	0.00028
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			67	96	84	87	99	97	97
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

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Certificate of Analysis

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

		Units	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)	mg/Kg (Dry Weight)
		Method No	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302	ASC/SOP/302
		Limit of Detection	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**PCB 28**	**PCB 52**	**PCB 101**	**PCB 118**	**PCB 153**	**PCB 180**
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	0.00288	0.00311	0.00356	0.00114	0.00886	0.00633
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	0.00115	0.00048	0.00041	0.00054	0.00101	0.00059
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
Certified Reference Material Nist 1941b (% Recovery)			68	89	84	86	94	94
QC Blank			<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

		Units	mg/Kg (Dry Weight)							
		Method No	ASC/SOP/302							
		Limit of Detection	0.0001							
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**AHCH**	**BHCH**	**GHCH**	**DIELDRIN**	**HCB**	**PPTDE**	**PPDDE**	**PPDDT**
GS-003 0.00 – 0.20m ES2	MAR02604.001	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
GS-006 0.00 – 0.20m ES2	MAR02604.002	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
GS-008 0.00 – 0.20m ES2	MAR02604.003	Sediment	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
GS-009 0.00 – 0.20m ES2	MAR02604.004	Sediment	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001
GS-010 0.00 – 0.20m ES2	MAR02604.005	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	<0.0001
VC-003 0.90 – 1.00m ES1	MAR02604.006	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.0007	0.0002	<0.0001
VC-003 1.90 – 2.00m ES2	MAR02604.007	Sediment	<0.0001	<0.0001	<0.0001	0.0003	<0.0001	0.0003	<0.0001	0.0008
Certified Reference Material Nist 1941b (% Recovery)			109~	102~	112~	95~	153	56	72	99~
QC Blank			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

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For full analyte name see method summaries.

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

		Units	mg/Kg (Dry Weight)							
		Method No	ASC/SOP/302							
		Limit of Detection	0.0001							
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**AHCH**	**BHCH**	**GHCH**	**DIELDRIN**	**HCB**	**PPTDE**	**PPDDE**	**PPDDT**
VC-003 2.90 – 3.00m ES3	MAR02604.008	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
VC-003 3.90 – 4.00m ES4	MAR02604.009	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
VC-006 0.90 – 1.00m ES1	MAR02604.010	Sediment	<0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0002	0.0002	<0.0001
VC-006 1.90 – 2.00m ES2	MAR02604.011	Sediment	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	0.0003	0.0001	<0.0001
VC-006 2.90 – 3.00m ES3	MAR02604.012	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001
VC-006 3.90 – 4.00m ES4	MAR02604.013	Sediment	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001
VC-008 0.90 – 1.00m ES1	MAR02604.014	Sediment	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	0.0002	<0.0001	<0.0001
VC-008 1.90 – 2.00m ES2	MAR02604.015	Sediment	<0.0001	<0.0001	<0.0001	0.0004	<0.0001	<0.0001	<0.0001	<0.0001
VC-008 2.90 – 3.00m ES3	MAR02604.016	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
VC-008 3.90 – 4.00m ES4	MAR02604.017	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Certified Reference Material Nist 1941b (% Recovery)			105~	98~	107~	104~	145	65	84	100~
QC Blank			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

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For full analyte name see method summaries.

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Certificate of Analysis

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

		Units	mg/Kg (Dry Weight)							
		Method No	ASC/SOP/302							
		Limit of Detection	0.0001							
		Accreditation	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS	UKAS
Client Reference:	**SOCOTEC Ref:**	**Matrix**	**AHCH**	**BHCH**	**GHCH**	**DIELDRIN**	**HCB**	**PPTDE**	**PPDDE**	**PPDDT**
VC-008 4.90 – 5.00m ES5	MAR02604.018	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
VC-009 0.90 – 1.00m ES1	MAR02604.019	Sediment	<0.0001	<0.0001	0.0001	0.0003	0.0002	0.0075	0.0011	0.0023
VC-009 1.90 – 2.00m ES2	MAR02604.020	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
VC-009 2.90 – 3.00m ES3	MAR02604.021	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
VC-010 0.90 – 1.00m ES1	MAR02604.022	Sediment	<0.0001	<0.0001	<0.0001	0.0003	0.0001	0.0002	0.0002	<0.0001
VC-010 1.90 – 2.00m ES2	MAR02604.023	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
VC-010 2.90 – 3.00m ES3	MAR02604.024	Sediment	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Certified Reference Material Nist 1941b (% Recovery)			107~	89~	114~	110~	119	55	77	95~
QC Blank			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

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Test Report ID MAR02604
Issue Version 1
Customer Reference Fishguard - RPS Waste Suite

REPORT NOTES

Method Code	Sample ID	The following information should be taken into consideration when using the data contained within this report
*SUB_01	MAR02604.001-024	Analysis was conducted by an approved subcontracted laboratory.
WSLM59*	MAR02604.001-024	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
ANC*	MAR02604.001-024	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
ICPMS-MWSED*	MAR02604.001-024	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
ICPOES-MWSED*	MAR02604.001-024	Analysis was conducted by an internal SOCOTEC laboratory. UKAS accredited analysis by this laboratory is under UKAS number 1252.
ASC/SOP/301	MAR02604.002-008, .010-012, .014-015, .019-024	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/303/304	MAR02604.015-024	The matrix of this sample has been found to interfere with the result for this test. The sample has therefore been diluted, but in doing so, the detection limit for this test has been elevated.
ASC/SOP/303/304	MAR02604.001-024	Benzo[k]fluoranthene is known to coelute with Benzo[j]fluoranthene and these peaks can not be resolved. It is believed Benzo[j]fluoranthene is present in these samples therefore it is suggested that the Benzo[k]fluoranthene results should be taken as a Benzo[k]fluoranthene (inc. Benzo[j]fluoranthene). Benzo[j]fluoranthene is not UKAS accredited. This should be taken into consideration when utilising the data.
ASC/SOP/303/304	MAR02604.001-024	Chrysene is known to coelute with Triphenylene and these peaks can not be resolved in the PAHSED UKAS accredited method. Chrysene and Triphenylene are resolved for MMO but this is currently not UKAS accredited therefore Chrysene is reported without this acccreditation.

DEVIATING SAMPLE STATEMENT

Deviation Code	Deviation Definition	Sample ID	Deviation Details. The following information should be taken into consideration when using the data contained within this report
D1	Holding Time Exceeded	N/A	N/A
D2	Sample Contaminated through Damaged Packaging	N/A	N/A
D3	Sample Contaminated through Sampling	N/A	N/A
D4	Inappropriate Container/Packaging	N/A	N/A
D5	Damaged in Transit	N/A	N/A
D6	Insufficient Quantity of Sample	N/A	N/A
D7	Inappropriate Headspace	N/A	N/A
D8	Retained at Incorrect Temperature	N/A	N/A
D9	Lack of Date & Time of Sampling	N/A	N/A
D10	Insufficient Sample Details	N/A	N/A
D11	Sample integrity compromised or not suitable for analysis	N/A	N/A

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Test Report ID	MAR02604
Issue Version	1
Customer Reference	Fishguard - RPS Waste Suite

Method	Sample and Fraction Size	Method Summary
Total Solids	Wet Sediment	Calculation (100%-Moisture Content).Moisture content determined by drying a portion of the sample at 120°C to constant weight.
Particle Size Analysis	Wet Sediment	Wet and dry sieving followed by laser diffraction analysis.
Total Organic Carbon (TOC)	Air dried and seived to <2mm	Carbonate removal and sulphurous acid/combustion at 1600°C/NDIR.
Carbonate	Air dried and seived to <2mm	Quantitative digestion with Hydrochloric Acid back titration with 1M Sodium Hydroxide to pH 7
Metals	Air dried and seived to <2mm	Microwave assisted HF/Boric extraction followed by ICP analysis.
Organotins	Wet Sediment	Solvent extraction and derivatisation followed by GC-MS analysis.
Polyaromatic Hydrocarbons (PAH)	Wet Sediment	Solvent extraction and clean up followed by GC-MS analysis.
Total Hydrocarbon Content (THC)	Wet Sediment	Ultra-violet fluorescence spectroscopy
Polychlorinated Biphenyls (PCBs)	Air dried and seived to <2mm	Solvent extraction and clean up followed by GC-MS-MS analysis.
Organochlorine Pesticides (OCPs)	Air dried and seived to <2mm	Solvent extraction and clean up followed by GC-MS-MS analysis.

Analyte Definitions

Analyte Abbreviation	Full Analyte name	Analyte Abbreviation	Full Analyte name	Analyte Abbreviation	Full Analyte name
ACENAPTH	Acenaphthene	C2N	C2-naphthalenes	THC	Total Hydrocarbon Content
ACENAPHY	Acenaphthylene	C3N	C3-naphthalenes	AHCH	alpha-Hexachlorocyclohexane
ANTHRACN	Anthracene	CHRYSENE	Chrysene	BHCH	beta-Hexachlorocyclohexane
BAA	Benzo[a]anthracene	DBENZAH	Dibenzo[ah]anthracene	GHCH	gamma-Hexachlorocyclohexane
BAP	Benzo[a]pyrene	FLUORANT	Fluoranthene	DIELDRIN	Dieldrin
BBF	Benzo[b]fluoranthene	FLUORENE	Fluorene	HCB	Hexachlorobenzene
BEP	Benzo[e]pyrene	INDPYR	Indeno[1,2,3-cd]pyrene	PPDDE	p,p'-Dichlorodiphenyldichloroethylene
BENZGHIP	Benzo[ghi]perylene	NAPTH	Naphthalene	PPDDT	p,p'-Dichlorodiphenyltrichloroethane
BKF	Benzo[k]fluoranthene	PERYLENE	Perylene	PPTDE	p,p'-Dichlorodiphenyldichloroethane
C1N	C1-naphthalenes	PHENANT	Phenanthrene		
C1PHEN	C1-phenanthrene	PYRENE	Pyrene		

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